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18 MAR 1946

THE FRUIT WORLD & "Market Grower"

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Vol. 47. No. 1 JANUARY 5th, 1946 Price 6d.

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South Australian News and Notes
Horticultural Research
Plant Diseases
Goulburn Valley Reports
Fruitgrowing in Tasmania
Vegetable Culture
Queensland News and Notes
Seasonable Orchard Work
Dried and Canned Fruits
West Australian Reports

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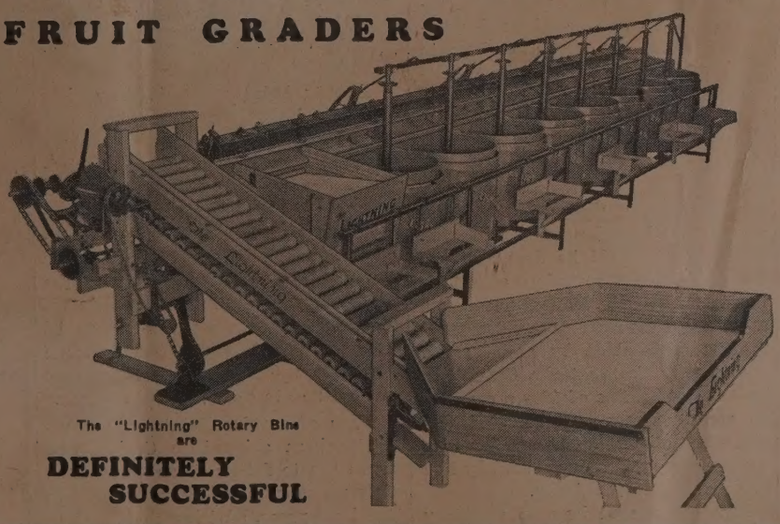

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Western Australian News and Notes

APPLE AND PEAR CROPS ONLY MODERATE — DEHYDRATION AT DONNYBROOK — VEGETABLE GROWERS SEEK GUARANTEED PRICES — LOQUAT TREES AS FRUIT-FLY CARRIERS.

(By Our Correspondent.)

Perth (17/8/45).

ORANGES have been in short supply, and are being keenly sought by buyers. Quota of Apples has been reduced by 40 per cent., and this has necessitated strict rationing of supplies. First Apricots fetched up to 45/- a case. Peaches have been coming in nicely, and a few early Grapes and Plums have been in demand. Cherries, Bananas and Passionfruit are scarce, latter are fetching 5/- a dozen. First of the season's Water and Rock Melons have come to hand from Geraldton. These have sold well. Lemons are plentiful, and Strawberries have been in good demand at high prices. Loquats are almost finished, but Tomatoes have been more plentiful, and prices have dropped considerably.

The Market Gardeners' Association of W.A., while approving of price fixing for produce, does not approve of the present system of fixing ceiling prices only. It advocates that there should be guaranteed prices on grade, both to consumer and grower. "If such a system were adopted," says secretary H. D. Mountjoy, "the consumer would receive vegetables of guaranteed quality at a cheaper average price than at present; the market gardener would be protected against ruinous prices, and the Prices Branch would be able to effectively police prices, which it is now impossible to do." Mr. Mountjoy rightly contends that there is a vast difference in fixing prices on perishable and non-perishable, for of the former usually only a few can be sold at ceiling price.

The Superintendent of Horticulture (Mr. Powell) has recently made an inspection of the Apple and Pear crops in the Bridgetown area, and estimates that the coming season will be a "reasonably fair" one. On the other hand, Mr. E. S. Hester, of the Bridgetown Fruitgrowers' Association, contends that the crop will be "a very light one—light enough to make the case problem completely vanish."

A case of extreme interest to Tomato growers was recently heard in the Geraldton Local Court, when Jack and Peter Stavros, Tomato growers of Waggrakine, proceeded against John Joseph Brown, secretary, of Geraldton, and Arthur Hall and William Webber, gardeners, of Waggrakine, claiming that the defendants or their servant or agent, during 1943 received for and on behalf of the plaintiffs, various sums of money which were the proceeds from Tomatoes sold by the plaintiffs, and that, in or about the month of November, 1943, the defendants wilfully withheld from the plaintiffs the sum of £41, and had wilfully and persistently refused to pay the plaintiffs ever since. Accordingly the plaintiffs claimed from the defendants the sum of £41.

Evidence was given to the effect that the plaintiffs had sold their produce through an unregistered association called the Geraldton Tomato Growers' Association, and the £41 represented the amount of a fine imposed upon them. Messrs. Hall and Webber were committeemen of the Association at the time when the fine was inflicted, and Brown was a person with whom the plaintiffs' transaction had brought them in contact. Peter Stavros said he first saw the rules of the Association after the fine was imposed. He had not signed any copy of the rules or any document promising to abide by such rules. Brown told him that the Committee had imposed a fine of 10/- a case for 82 cases. Cross examined, witness said that others would not have to make up any deficiency caused by him in deliveries to the Army.

Mr. Brown said he was secretary but not a member of the Association. Defendants were present when an amendment was made to the rules when the Army commenced to accept supplies. Each grower was supposed to make up his current quota before supplying the open market. Witness received instructions from the Committee not to pay the £41 to the plaintiffs. Mr. T. Ansell, Resident Magistrate, gave judgment for plaintiffs for £41 with costs jointly against Messrs. Hall and Webber. Judgment, with costs, was given for Brown. Defendants have been allowed a stay of proceedings for 21 days.

A deputation from the Preston Road Board recently met the Minister for Agriculture with reference to the closing down of the **Donnybrook dehydration factory**. Mr. N. Lemmon, assistant to the Minister for Commerce and Agriculture, was also approached, and when Mr. Lemmon went to Sydney he took the matter up with Minister Scully with the result that arrangements have been made for a quota of Potatoes to be allowed to the factory in order that it may keep going until Apples are available.

Paterson and Co., of Donnybrook, have supplied over 1,000,000 cans of Apple juice, over 10 tons of dried Apples and 150,000 lb. of solid pack pie Apples to the services during the past year. Peak daily output of Apple juice was 20,000 cans daily.

Representatives of public bodies in Albany have been trying to get a dehydration or canning plant established in the district. Hopes are also being expressed that more use will be made of the town's magnificent harbour.

Deputy Prices Commissioner has announced that the higher maximum prices granted for early Cucumbers have now been discontinued. Metropolitan prices will now be 27/6 cwt. wholesale, and 4d. per lb. retail.

There has recently been an intensive inspection of Loquat trees in the metropolitan area by officers of the Fruit Branch, and in 2,848 inspections only 37 orchards were found to be infested with fruit fly. At the same time some 600 "backyard orchards" were found to contain infested fruit.

Tons of surplus Potatoes have recently been shipped to Ceylon, and more are to follow at an early date. Advertisements are being featured in the local press, advising the public to "buy Potatoes in quantity." Some 2,500 tons were recently sent to the Eastern States.

Mr. J. C. Palmer, of the Potato Branch of the Department of Agriculture, recently returned from a brief business visit to Melbourne.

Mr. G. Parke, chairman of the State Committee of the Apple and Pear Board, is another who has recently returned from Melbourne, where he attended a conference of fruitgrowers to consider post-war difficulties of the apple and Pear industry.

PUBLICITY FOR AUSTRALIAN INDUSTRY.

IT IS SATISFACTORY to note that some sections of the Australian Fruit industry have been steadily accumulating funds during the war years in order to be ready for a drive to increase sales in Australia at the end of the war. The Dried Fruits industry has given a valuable lead in this connection.

Educational publicity on health lines is important to develop a fruit consciousness among the people. This would have the direct and unqualified support of the medical and dental professions, also of dietitians.

It is a regrettable fact that publicity for denatured foods, patent medicines and synthetic fruit juices has never ceased, even during the war. Now this class of advertising has increased. This advertising brings results, or it would not be done. So the fruit industry, which has a constructive health story to tell, should lose no time in planning for educational publicity, not only to counteract the mendacious advertising of quack foods and drinks, but in so doing to help build a national industry.

Advertising is a force to be reckoned with.

Fruit Cases

Be wise and order your supply of new cases now. FLAT, DUMP, LONG BUSHEL, KERO. CASES, in shooks or made up.

We also supply Spray Materials, Hose, Cultivating Equipment, Motor Oils, Batteries, and all Hardware.

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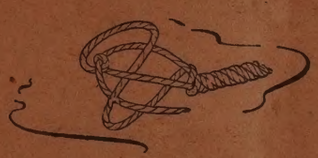
January 5th, 1946



The Gordian Knot

According to legend, Gordius, King of Phrygia, fastened his wagon to a beam with a rope of bark so ingeniously that no one could untie it. ALEXANDER the GREAT, being told that whoever undid the knot would reign over the whole East, took his sword and severed it with one bold, decisive stroke.

Who knows? Perhaps Alexander would have failed, and the course of History been changed if he had had to contend with the tough, durable yet resilient knot that is a feature of Gerrard steel wire strapping systems.

Good Australian packing supplies backed by dependable
GERRARD SERVICE
Wire Tying Machines and Strapping - Flat Band Strapping Systems - Corrugated Fasteners - Fountain Stencil Brushes - Fount-Pencil Markers - Stencil Inks - Label Tackers and Tacks - Bag Ties - Packing Room Supplies.
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The Tie That Binds
Melbourne, Sydney, Brisbane, Townsville, Perth, Adelaide, Hobart

NEWS OF THE MONTH

INTERSTATE FRUITGROWERS' CONFERENCE.

Australian Council of Apple and Pear Growers Formed.

At the Interstate Fruitgrowers' Conference of fruit growers held at Melbourne on December 5 and 6, delegates were in attendance from all the Australian States, and there were also present State Departmental Officers and officials of the Department of Commerce and Agriculture.

Mr. J. B. Mills and Mr. H. A. Baker, Chairman and Secretary of the Aust. Apple and Pear Marketing Board, attended on request and Mr. Mills gave information concerning export and other matters.

Mr. W. B. Pascoe (Orange, N.S.W.) was elected chairman. A spirit of harmony prevailed and the necessity was realised for the establishment of an Australia-wide Council of Apple and Pear Growers. This was decided by unanimous resolution.

It was also decided to seek the reconstitution of the Apple and Pear Board (with amendments to the previous constitution) as a statutory body to deal with exports.

Many farsighted matters relative to the industry were agreed to, and a further conference will be held at a later date. It was decided to examine the question of reciprocal trade in Apples with U.S.A.

A cordial vote of thanks was carried to the N.S.W. Association of Apple and Pear Growers, and its chairman (Mr. Pascoe) for initiating the Conference. Mr. Pascoe was appointed President and Mr. B. Rasdall (N.S.W.), Secretary.

PERSONAL.

The Duke and Duchess of Gloucester visited Shepparton early in December and were given an enthusiastic welcome.

The Governor of South Australia, Sir Willoughby Norrie visited some of the River Murray districts of South Australia early in December: Berri and Barmera were among the places visited. Great interest was displayed in the developments in the district.

The Minister for Post-war Reconstruction, Hon. J. J. Dedman, M.P., was at Renmark, S. Aust., River Murray centres early in December where he conferred with local repatriation Committees. Mr. Dedman addressed meetings on the subject of Post-war reconstruction.

Congratulations to Mr. A. W. Fairley, C.M.G. on the honour which has been bestowed upon him. Mr. Fairley has been chairman of the Shepparton Fruit Preserving Co. for 30 years. He has held many other distinguished positions in connection with the fruit industry and was the first Mayor of Shepparton. A tireless worker and a great Australian.

Mr. J. M. Ward, Superintendent of Horticulture, Victoria, is at present in hospital and it is not expected that he will be resuming his duties at the Department of Agriculture for some weeks.

MARKET RESEARCH IN U.S.A.

Merchandising, Packaging and Advertising of Apples.

Importance of Statistical Data.

AN IMPORTANT STEP has been taken on behalf of Pacific Coast, U.S.A., Apple growers. A market research project has been launched. "Appleland News" states that the research program will include the establishment of a method of compiling current statistical market and shipping data essential to the industry. This will cover a complete Apple statistical service taking into account market trends, a study of the condition of Washington Apples on arrival in the markets,

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new merchandising techniques, use of containers, cost of distribution, special marketing studies, export market outlook, effectiveness of the advertising program and transportation problems.

:: :: ::

The Washington State College has made Dr. Mark Buchanan head of the department of agricultural economics in the college, available to the Washington State Apple Advertising Commission to aid and direct the initial activities for the fruit industry and the commission.

Dr. Buchanan has established research headquarters in Wenatchee; Dr. Nathanael Eagle, director of the department of business economics in University of Washington is acting in the capacity of advisory expert to guide the general policy and procedure in the right direction.

Crop Reports

TASMANIA.

Apple Crop of Over 6½ Million Bushels Expected.

Estimate of the coming crop of fruit issued by the Dept. of Agric., Hobart, are as follow:—

Apples 6,550,000 bushels, Pears 600,000 bushels, berry fruits 6,000 tons.

The foregoing is subject to crop hazards, but was issued after the severe hailstorm in November in the Huon Valley.

VICTORIAN FRUIT CROPS.

Apples Heavy :: Pears Medium.

IT IS ESTIMATED that the Victorian Apple crop for 1946 will be in the region of 2½ million bushels, of which the main variety (Jonathan) will be about 1,000,000 bushels. Other varieties include (in bushel), Romes 290,000 Granny Smith 240,000, Ballarat (Statesman), 200,000; Delicious 160,000, Yates 160,000; Dunns 100,000, London Pippin 90,000, with smaller but substantial quantities of Democrat, Gravenstein, Cleos., etc.

Principal districts: 1946 estimate in bushels: Metropolitan (720,000); Mornington Peninsula (650,000); Harcourt and district (410,000); Gippsland (400,000); Geelong, Bacchus Marsh, Portland (135,000); Horsham, Quantong, Amphitheatre, Pomonal (120,000); N.E.—Stanley, etc. (100,000), Diamond Creek, etc. (90,000).

The Pear crop in 1946 is expected to be about 1¼ million bushels, the principal varieties being (in bushels): Williams 700,000, Packham's 280,000, Josephine 75,000, B. Bosc 45,000, Winter Nelis 45,000, with smaller quantities of Winter Cole, Kieffer, Black Achan, Howell, Glou Morceau, Broom Park, etc.

The principal districts are (1946 estimates in bushels), Goulburn Valley (800,000) and Metrop. (240,000).

Estimates for other fruits (in bushels) are:—Peaches (canning) 920,000, other 175,000; Apricots 380,000; Plums and Prunes 145,000; Cherries 75,000; Figs 4,500; Quinces 19,000.

STH. AUSTRALIAN FRUIT CROP PROSPECTS.

Apples Good — Pears Light — Citrus Crop Shaping Well.

FRUIT CROP PROSPECTS for South Australia are reported as follows by the S. Aust. Dept. of Agriculture:—

Apples.—A good crop is in sight. Hailstorms caused damage to individual orchards in the Williamstown district and elsewhere.

Spring rainfall favoured the development of black spot, and damage from this cause may increase if weather conditions are favourable.

It is anticipated that the 1945/46 Apple crop will be better than average, and in volume may be in the vicinity of 900,000 to 1,000,000 bushels. Damage by black spot and hail is expected to lower the grade in varying degrees of approximately 15 to 20% of the crop.

Pears.—The Pear crop is exceptionally light. The Williams B.C. (Duchess) variety shows a 50% to 75% crop according to district, but other varieties are very light, varying from 10% to 30% of normal. Overall the Pear crop is expected to be the poorest for many years and may aggregate in the vicinity of 130,000 bushels.

Plums and Prunes.—Prune and Plum crops appear to be slightly below average, although Japanese varieties are generally carrying good average crops.

The total State crop is estimated at slightly less than average—140,000 bushels.

Apricots.—Apricot crops are generally heavy, particularly in the Murray Irrigation Areas, where yields of 10% to 20% better than normal are anticipated. Weather conditions have favoured scab development where spraying programmes have not been properly implemented.

No frost damage was sustained, except at Coonawarra in the South East, where an unfortunate frost occurrence destroyed practically the entire crop.

For the whole State a harvest of more than average dimensions is anticipated, estimated at 530,000 bushels.

Peaches and Nectarines.—A crop in the vicinity of 160,000 bushels is anticipated.

Cherries.—Crop estimated at about half of normal—about 25,000 bushels.

Almonds.—An average to better than average crop is anticipated. This may be of the order of 9,500 to 10,000 cwts.

Citrus Fruits.—Prospects for the 1946 harvest are good so far. In isolated localities, leaf drop has been marked, and the shedding of young fruits excessive. On the whole a better than average crop is likely, provided that the December drop is not unduly heavy.

Wine Grapes.—Except in the South East, where approximately half the crop was lost, the season has been marked by practically complete absence of frost damage.

NEPTUNE

SPRAY PRODUCTS

Oldest Established and Best Known on Australian Market

Stand the Test of Time

NEPTUNE WHITE SPRAYING OIL
NEPTUNE CLARIFOL, NEPTUNE PALSOL
NEPTUNE RED SPRAYING OIL "A"
NEPTUNE RED SPRAYING OIL "C"
NEPTUNE WINSOL
NEPTUNE LIME SULPHUR
NICOTINE SULPHATE — BLACK LEAF 40
ARSENATE OF LEAD
SPRAY SPREADERS

Neptune Oil Co. Pty. Ltd.

(INCORPORATED IN NEW SOUTH WALES)

Branches in All States

Agents in all Fruit-Growing Areas.

On present indications the State vintage should be about average, or may be 5% to 10% above normal.

Drying Grapes.—Prospects are particularly good. Sultanas appear to be 20% to 25% better than average, Currants 10% to 20% better and Gordos 10% above normal.

With continued favourable conditions a dried vine fruit crop equal to that of 1943/44 (31,196 tons) may be attained.

NEW SOUTH WALES.

ALTHOUGH FAIRLY FAVOURABLE weather has been experienced in most of the main producing areas, good rains at an early date would be welcomed. Apples are rather patchy and, although many good crops are to be seen, for the most part they are moderate to light. Pears on the whole are light.

There was hail damage in many districts, noticeably in the New England.

—H. J. Hynes, Chief of Marketing Division, N.S.W. Dept. of Agric., December 14, 1945.

The following is a short summary of crops in the several districts:—

Northern Tableland: Crops patchy. Gravs., Demos. and Sturmers fair; Jons. and Granny Smiths good, but Delicious failed. Apples sustained hail damage.

Winter Cole Pears virtually a failure, but there are fair crops of Packham's, Josephines and Broompark, while Williams are good.

Bathurst—Blue Mountains: Around Bathurst light to moderate yields expected. Williams and Packham's Pears good to light, others light.

In the Blue Mountains section, rain urgently required. Granny Smiths, Jons. and Tasmas good; Delicious almost a failure; Williams and Packham's moderate to light; others light to a failure.

Orange: Conditions favourable. Granny Smiths full crop, Jonathans moderate, Delicious a half crop; others patchy. Williams Pears light, Packham's satisfactory; others patchy.

Goulburn, Mittagong, Etc.: Good rains were received around Goulburn, Tallong and Penrose, further falls required in other districts.

Around Penrose Apples generally good; McIntosh Red light; Granny Smiths and Jons. heavy. Moderate crops are showing on most varieties of Pears; Winter Coles light. Packham's heavy.

Average crops likely in the Crookwell area. Granny Smith look the best. Pears very light.

Granny and Democrat Apples are showing well at Boorowa, but Romes and Del. are light to very light in places, while Jonathan and London Pippin are almost a failure due to thrips.

Pears very light.

Young: Granny Smiths good; Jons., Cleos., Statesman and Romes patchy; Delicious a failure.

Packham's Pears fair; Williams patchy. Others very light.

Batlow: Weather conditions generally favourable. Delicious Apples fair to very good. Granny Smiths very good; most others moderate to good.

Winter Cole Pears very light; Williams light to moderate; Packham's medium to good; Bosc and Josephine light.

Albury: Rain needed. Jons. and Granny Smith good; others fair to good. Williams Pears light; Packham's moderate; others fair.

Murrumbidgee Irrigation Area: Conditions have not been particularly favourable. Crops patchy. Outlook for Apples better than last season, but crops below normal. Pears very poor, particularly Williams.

Coastal.

Wyong: Granny Smith Apples very light, probably due to Thrips; others average. Pears normal.

Hawkesbury-Brooklyn: Allsopps, Kirks and a few Willie Sharp Apples are being marketed. Granny and Mobb's Royal light. The Apple crop should approximate 80 per cent. of last year's. Few Pears grown, Williams light.

Windsor: Weather dry: there was damage by thrips. Early Apples: Allsopps, Carrington, Willie Sharp and Kirks being harvested. Fruit is larger than last year; high prices offering. Fruit fly influenced early clearances.

Pears heavier than last year, and the principal variety (Williams), is filling out well. Keiffers and Chinas are cropping heavily and Packham's have set well.

U.S.A. APPLE CROP.

Much Below Average. Nevertheless Big Advertising and Merchandising Campaign is Being Conducted.

THE U.S. APPLE CROP in 1945 is officially computed at around 68,000,000 bushels as compared with 125,000,000 bushels in the previous season.

The principal "boxed-Apple" States are those of the Pacific Coast, Washington and Oregon. The State of Washington has a 25,000,000 crop as compared with 31,000,000 bushels last season.

The Washington State Apple Commission reports that there is still a severe labour shortage. Ceiling prices still operate for the 1945 crop. The ceiling is higher than for the previous crop.

An educational advertising campaign is being vigorously conducted to reach the public. In addition there is being conducted a well planned Merchandising Campaign designed to assist the retail trade to display and sell stocks to best advantage.

CANADIAN APPLE CROP.

Less Than Half of Normal.

THE latest estimate is that the 1945 Canadian Apple crop will approximate 7,626,000 bushels or 43 per cent. of the 1944 crop, which was 17,828,000 bushels. Of this total British Columbia provides 5,810,000 bushels which is 66 per cent. of the 1944 crop.

FRUIT AND PRODUCE EXCHANGE
TURBOT STREET, BRISBANE.
Satisfaction Assured.

M. LLOYD
43
BRISBANE

Stencils on Application.

CONDITIONED PEARS.

"Should be Sold to Public in Ready to Eat Condition."

Developments in U.S.A.

REPORTS FROM U.S.A. indicate the emphasis that it now laid on the sale of "conditioned" Pears, i.e., in a ready to eat condition.

One well-known salesman states (in "Appleland News") I endorse pre-ripened winter Pears wholeheartedly. They sell two to one, or better, over-hard juiceless Pears that have to be ripened at the home. People want fruit to eat when they buy it—not to hold—so the logic ready-to-eat Pears is crystal clear to us."

AGRICULTURAL COLLEGES.

Six Scholarships Available in Victoria.

The Victorian Government has approved of the award of six scholarships which will entitle the holders to free tuition and board and lodging for three years at either Dookie or Longerenong Agricultural College.

In making this announcement, the Minister of Agriculture, Mr. W. G. McKenzie, said that five scholarships would be awarded annually to boys attending State and Registered Schools in Victoria, and one scholarship annually to the nominee of the Victorian Young Farmers' Clubs Association of Victoria.

Applicants shall not be less than fifteen years of age on 1st March in the year in which they will enter the College.

Conditions of scholarship award and forms of application can be obtained from the Superintendent of Agricultural Education, 61 Spring St., Melbourne. Applications will close on the 14th January, 1946.

ELEPHANT BRAND SPRAY

Insist Upon it!

FRUIT GROWERS generally have come to depend on "Elephant" Brand Sprays. They find them absolutely reliable, efficient and of guaranteed quality.

Use
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Arsenate of Lead—Quality Stands Alone

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Extract from "BETTER FRUIT," by Dr. R. L. Webster, Entomologist, State College of Washington, Pullman: CODLING MOTH COVER SPRAYS—"Ever since the imposition of an arsenic tolerance in 1936, and even before that time, investigators have been testing other materials which may be used in place of lead arsenate. Following all these intensive and extensive investigations lead arsenate appears to have certain inherent qualities which place this material foremost as an insecticide for codling moth control."

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Shepparton News

RAVAGES OF THE RUTHERGLEN FLY. — VALUE OF SPRAYING WITH D.D.T.

Shepparton (19/12/45).

Rutherglen Fly: Serious loss of Peaches has occurred not only at Shepparton but throughout the Goulburn Valley through the ravages of the Rutherglen Fly. This pest, appearing in plague form, is undoubtedly the worst pest that growers have to contend with.

The last appearance was about 1928; prior to that time infestation occurred at approximately five to seven years' intervals, when possibly up to 40 per cent. of the Peaches were ruined, but the present visitation far surpasses anything ever before experienced.

First observed in any quantity on Monday, December 10, many Peach growers reported that by the following Friday the whole of their crop was a total loss. In some cases not more than 15 per cent. of the Peaches are affected, but once established in an orchard its progress is so rapid that it is feared the whole of the Peaches will be useless for canning. The latest report is that already 60 per cent. of total crop is ruined.

Apricots, as they ripen, are also badly affected, many individual growers reporting from 30 per cent. to total loss already. No effective means of control have been found to date, spraying with nicotine and phenyle and benzole emulsion and such sprays proving effective for only a few hours, while attempting to smoke them out has been tried on a large scale, no lasting benefit is reported except in isolated cases.

An experiment carried out with a D.D.T. spray shows great promise, trees so sprayed being free of fly, while unsprayed trees adjacent are swarming with them, it is not yet known how long the effect of this spray will last, but experts state that is the best and only probable means of control existing. As practically all the output of D.D.T. produced in Australia is under contract to the Army authorities, efforts were made by the Fruitgrowers' Associations and Canneries to have sufficient released to spray the trees not too badly effected with a view to saving the clean fruit. After delay release was granted and the consignment is due in Shepparton early this week, but owing to the inadequate quantity available it is feared that much fruit that could have been saved by earlier application will be lost. Tomatoes, Bean and Pea crops are also likely to be ruined.

Pears: Intensive spraying is being carried out in all Pear orchards for codling moth with good results to date as less first brood codling has been seen so far than previous years.

The crops being light it is hoped that the Pears will size up earlier than usual, so enabling harvesting to be completed before the full force of the second brood is felt.

D.D.T.: It is officially stated that this chemical has proved most effective against green and black Peach aphis, and great hopes are held out for it as a control for codling and Peach moth. Many growers will be heartened to know that it is also sure control for the root borer, but is useless for Bryobia Mite, Red Spider, and some species of aphides, and no use whatever for control of scale.

It is hoped that the authorities concerned will do all they can to produce and supply to primary producers sufficient D.D.T. to ensure maximum control wherever possible, in order to save so much of the vital foodstuffs ruined by inefficient and out of date controls.

Labour: The public schoolboys arrived in Shepparton to-day and are now well established in their camp at the Central Recreation Reserve, Orrvale.

At a meeting of Manpower Authorities and Growers' Representatives it was agreed the National Service Office would endeavour to supply labour requirements for the Pear and Peach picking, owing to loss caused by Rutherglen Fly not much trouble is expected in getting the requisite number of men.

CANNING PEACHES THREATENED.

D.D.T. Supplies Released.

In an attempt to save the canning Peach crop in the Goulburn Valley from a plague of Rutherglen Bugs, the Victorian Government arranged for experimental dusting of Peach orchards by aeroplane. The Minister of Agriculture, Mr. W. G. McKenzie, said that the plague of Rutherglen Bugs was the most serious ever experienced in the Goulburn Valley. In addition to canning Peaches which are being heavily attacked, Apricots and other stone fruits have been seriously affected, though, to date (December 26), the Pear crop has not been attacked.

Mr. McKenzie added that as a result of representations made to him by the industry that other insecticides had proved ineffective, a request had been made to the Federal Government for release by the Army of supplies of D.D.T. in an attempt to save the canning Peach crop estimated at nearly 1,000,000 bushels and which, failing control of the bug, would be practically ruined. A total of 7,390 lb. of D.D.T. was made available.

It has been estimated by the three Goulburn Valley canneries through which the D.D.T. is being supplied to growers that their total requirements are of the order of 12 tons, but the quantity made available is the maximum possible under existing conditions. The main controlling factor is the rate of manufacture of D.D.T.

The above quantities are for spraying orchards with orchardists' own spraying equipment. Experiments are

Paid for DESTRUCTIVE SERVICES RENDERED

£250,000 is a conservative estimate of the losses sustained annually by Australian Orchardists due to the ravages of the Codling Grub, alone. Strong preventive measures are necessary or this figure will increase — and "John Neglectful" will pay. Safeguard your orchards and your livelihood with an adequate spray programme — winter and summer . . . . Gargoyle RED Spraying Oil for the dormant (winter) spray, Gargoyle PALE, a fungicidal adjunct for use with Bordeaux, etc., and Gargoyle WHITE, the "Summer Oil" for use with Nicotine, Lead Arsenate, etc., or alone. These sprays will give YOU control over fungus and insects.

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also being conducted at Cobram on control of the bugs by spraying from an R.A.A.F. aeroplane made available by the Minister for Air. This method of control would be more economical in the use of D.D.T. and more rapid, but it is not yet possible to say whether it can be effectively applied against this insect.

From the point of view of public health, the wholesale use of D.D.T. in this way is something which has to be very carefully watched. Amendments to the Food and Drug Standards Regulations and the Fruit and Vegetables Regulations are being made which would make it an offence to sell fruit containing more than seven parts per million by weight of D.D.T. This tolerance has been suggested as a safe figure by the Director-General of Health.

The use of D.D.T. in the Goulburn Valley sponsored by the Dept. of Agric. is limited to canning Peaches from which the skins will be removed in processing. Such fruit on canning would not contain harmful quantities of D.D.T. and would present no public health problem. Before canning type Peaches could be permitted to be used for drying or as fresh fruit, the Department will have to be satisfied that the residue of D.D.T. on the fruit is below the recommended tolerance and analyses of sprayed fruit are being made as a guide to administrative procedure in this regard.

VALUE OF D.D.T.

Control of Buffalo Fly.

D.D.T. is a highly persistent contact poison, not a repellant, states Mr. K. R. Norris, of the Council for Scientific and Industrial Research in a recent bulletin on the control of the Buffalo Fly on dairy cows and beef cattle.

Mr. Norris points out that Buffalo Flies that rest for even a short period on the coats of cattle inevitably die, but they do so slowly. This action may continue for weeks after the application of D.D.T. as the Buffalo Flies move rapidly from place to place on the body of a beast, it is unnecessary to spray the whole animal, for the flies eventually alight on areas that have been sprayed. If only half the cattle in a herd are sprayed, the flies will eventually be virtually eliminated from the whole herd.

D.D.T. is a poison that must be handled with care, but it is certainly not more dangerous than many other insecticides, such as arsenical dips.

In the bulletin referred to, Mr. Norris, who is the C.S.I.R. Officer in charge of Buffalo Fly investigations, gives many valuable hints in the use of D.D.T. in emulsion or in solutions. Copies of this bulletin are available on application to the C.S.I.R., which has offices in the several States.

APPLE AND PEAR ACQUISITION.

It was officially announced in December that the Commonwealth Government would acquire the 1946 crop of Apples and Pears in Tasmania and Western Australia on terms similar to those in operation in 1945.

Seasonable Orchard Notes

A NEW ORCHARD SPRAYER.

Works on New Principle of Air Displacement in Providing Complete Coverage of Spray Material — A Labour Saving Device.

SPRAYING is such an important item in orchard, citrus grove and vineyard management that any new developments that will do the work better and save labour are always observed with keen interest.

"The biggest advance in 25 years," is the description of the new "Speed" sprayer recently developed in U.S.A. It works on an entirely new principle. The present system is that of spraying at from 300 lb. to 600 lb. pressure. The new principle is entirely different. The liquid is discharged from the nozzles at only about 50 lb. pressure and then is spread out in a uniform pattern by the arrangement of the nozzles at the rear of the machine. Then the spray material is blown from these nozzles into the trees with a very large volume of low velocity air. This is sufficient to completely displace the air in the tree area and replace it with the air carrying the very finely divided liquid spray material. The output of the "Speed" Sprayer is from 125,000 to 150,000 cu. ft. of air per minute, which is sufficient to completely displace all of the air in the tree area of from three to six medium to large size trees per minute.

The direction of the spray material to the different parts of the trees is provided for by a system of easily adjusted louvres or fins located between the propeller of the nozzles within the control mechanism right at the hand of the tractor operator. The "Speed" Sprayer is particularly effective for the control of black spot and codling moth. Its value has also been proved in spraying Peach, Cherry and other trees.

Only one man is required where eight were needed with the existing types of spraying equipment. It is designed for large scale work. The Speed Sprayer also saves spraying material, or alternatively makes the material used go further in the matter of complete coverage.

Speed sprayers are operating in U.S.A., Canada, also in England. The new principle in spraying has won the support of growers.

CONTROLLING APPLE DROP.

THE pre-harvest drop of Apples is retarded by the use of growth-regulating substances dissolved in water and applied in sprays. Recently, the so-called "aerosol" method for applying growth substances has been introduced similar to the method used by the Army for dispersing DDT for insect control states an American exchange.

By the aerosol process, the growth substance and a carrier are held under pressure dissolved in a liquid gas. When the mixture is released the materials are carried out with the gas as very fine particles. Because of the large size of the trees and the limitations of present equipment, this method is not practical for use in commercial orchards. Its use in treating dwarf and semi-dwarf trees, however, has been demonstrated by Dr. H. B. Tukey and Dr. C. L. Hamner of the New York Experiment Station.

Dwarf and semi-dwarf trees of McIntosh, Macoun and Kendall were used in the tests, none of these varieties retaining their fruit very well and none of them responding overly well to standard pre-harvest sprays. In the case of McIntosh, 75 per cent. of the fruit still remained on the aerosol-treated trees 22 days after commercial harvest as compared with 36 per cent. on untreated trees. The most striking results were obtained with Kendall with 87 per cent. of the fruit remaining on treated trees 35 days after harvest as compared with only two per cent. on the untreated trees.—"Horticulture."

PASSION FRUIT CULTURE.

Brown Spot Control.

THE DEVELOPMENT of brown spot of Passion Fruit is favoured by warm humid weather, although it may be in evidence on vines throughout the year. The density of the vines also influences their liability to the disease.

Effective control of brown spot can be obtained only when protective measures are applied in advance of the appearance of weather favourable to the disease, states a note by the Biological Branch of the N.S.W. Dept. of Agric. Satisfactory results with heavily foliaged vines cannot be expected unless at an earlier stage in growth protective sprays have been applied. Bordeaux mixture, 4-4-40 is the most useful spray in this connection.

Vines should receive their first spray in the spring before they become too dense, and the application should be repeated at monthly intervals during the summer and autumn. Some judgment can be exercised in lengthening or shortening the periods between sprays, depending upon the season, and the age and density of the vines. The spray should be applied at about 200 lb. pressure and an endeavour made to obtain good coverage of the canes as well as the foliage.

Some growers have found that it is practicable to arrange early removal by hand picking of diseased leaves to check the development of local "nests" of the disease. Local spread is very important, and in small plantations the measure appears worthy of further trial, but it should only be carried on in conjunction with a spraying programme.

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Fruitgrowing in Tasmania

Colour in Mersey Valley Apples

CULTURAL METHODS IN NORTHERN TASMANIA.

(By Our Travelling Correspondent.)

THE MERSEY VALLEY, which suffered such severe damage from hail last January, saw its first orchard planted about 1911, when Alfred Boatwright and J. Prestige came on the scene at Latrobe. In 1910 Tasmanian Freeholds Ltd. subdivided 1,000 acres at Spreyton and with the aid of attractive literature and good salesmanship succeeded in selling the 10 to 12 acre blocks in India and the Malay States. Mr. St. Clair Smith and Major Brown are the only original settlers remaining to-day.

Mr. F. S. Holmes, a retired Englishman from India, who bought out his friend Mr. Hewitt, paid a tribute to the excellent spacing and fencing of the orchards which were sold to those optimistic Anglo Indians.

Jonathans, Sturmers, Red Delicious, Granny Smiths, and Croftons are the Apples grown on Mr. Holmes' property. Bitumen is preferred to petroleum jelly for sealing grafts. It was noticed that bitumen treated scions held their leaves much longer in the Autumn. Manpower shortage is acute on this property and Mr. Holmes has a perfectly appointed home awaiting the right man.

Mr. J. H. Astell, the well-known mining director, and a leading grower at Spreyton, who is altogether a man of many interests, is manager of the Fruit Growers' Lime Sulphur Syndicate, which has been doing such a good job for the district by mixing the ingredients on the spot.

Seedling V. Spy Stock.

Although Mr. Astell's 50 acres of orchard is not in full bearing, he expects to harvest a crop of 20,000 bushels this year. He most emphatically prefers seedling stock to Northern Spy. The latter never develops the root system of the former and consequently never makes the growth nor bears the crop. Eighteen feet apart on the triangle is rather close for seedling stock. Mr. Astell states that trees on Northern Spy stock 28 years old yield an average of 5 to 6 bushels per tree, whereas Tasmanian seedling stock 16 years old yield an average of 9 bushels per tree.

Five of those 16 year-old seedling stock Jonathans packed out 53 bushels last year.

In spite of overtime rates, Mr. Astell finds that long hours pay well and, although his 400 acre farm and orchard usually required a minimum of seven hands, it has been kept in Apple pie order by four men during the war years.

Spreyton Grows them Red.

Mr. E. Walpole with his 116 acres of orchard is the largest grower in the Mersey Valley and a most enterprising man of business, he has recently provided the district with extensive and up to the minute cool stores—present capacity 27,000 cases and still expanding. Incidentally an interesting new insulating material "Solomite" is used throughout. It is put up by T. W. Bently & Co., of Melbourne.

Mr. Walpole, whose first crop amounted to 12 cases, now packs 47,000. His packing shed, 190 x 50 ft. has a concrete floor on ground level so that trucks may drive into any part of it.

Whether it is Spreyton's methods, or soil, or sheltered position open to the sun the fact is, says Mr. Walpole, "We can grow the red stuff." The brilliant red of Spreyton Jonathans and Red Delicious is unrivalled. In this district hundreds of acres have been reworked from Five Crowns to Red Delicious.

A large part of Mr. Walpole's orchard was planted 20 x 20 ft., but about 1934 he interplanted so that the trees are now 10 x 20 feet. Pre-war ten hundred weight of fertiliser was applied to the acre so that the yield from these 200 trees of different ages to the acre was 1,000 bushels.

Mr. Walpole supports Mr. Astell in reference to Spy stock and states it definitely does not suit the Sturmer, though he finds Jonathan do well on it. He likes to see a good grey loam soil in an orchard on a friable clay sub-soil. Wet feet, he states, is the biggest enemy of the Apple tree. Finally he claims the record; 197 codling grubs found in one bandage.

Mr. C. V. Pyke, another Spreyton orchardist, is a strong supporter of Jonathans and Delicious, though also growing Sturmers and Democrats. Oats and Blue Lupins are planted as cover crops and fertiliser is applied at petaltime. The Codling Moth in Tasmania seems to be subjected to a delayed hatch and usually does not make his appearance until early summer and sometimes is not troublesome until February or early March.

Mrs. R. S. Burns and Son would feel happier if they could get more fertiliser for this year's heavy setting. Five Crowns have been worked over to Early, Golden and Lalla Delicious; Sturmers, Democrats, Worcesters, Gravensteins and Granny Smiths are also grown. Cleo's on account of so many stalks being pulled out by the pickers were worked over to Granny Smiths.

Hessian bands as codling traps are removed and burnt and replaced with new ones throughout, this being the surest way of seeing that none are passed through carelessness.

Beurre Bosc, Glou Morceau and Williams Pears are also grown. This eleven acre orchard has an average yield of close on 4,000 bushels, though hail reduced it to 2,000 last season. Since fertiliser has been in such short supply, the opportunity has been taken to do some rather severe pruning to get the trees in better shape.

Mr. C. L. Viney asserts that, had the Petty plough been on the market earlier, he could have saved ten years of energy out of his life! On his three orchards cover crops of Lupins are planted. His varieties, planted 18 x 18 ft. on the square, are Cox, Democrats, Granny Smiths, Delicious, Jonathans and Sturmers, and in Pears Winter Coles and Buerre Bosc. Spy stock is preferred for its blight resistant qualities. He suspects his magnificent pine wind breaks of harboring codling moth.

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TASMANIA—(Continued).

Mr. A. V. T. Webb is a returned man from two wars, who has 13 acres of Apples — Jonathans, Delicious, Granny Smiths and Delicious, and he prefers them in that order. Leganas have been put in as a good keeping, late variety.

Mr. Webb believes in ploughing well in alternate years and rotary hoeing for the rest. Two tons of lime to the acre were applied last year and the benefit is already apparent in the trees.

Mr. W. H. Constable, the Bacon Curer of "Brookside," Spreyton states he annually buries the offal from 80,000 pigs in his 15 acre orchard, and limes it heavily every third year. He claims an average yield of 8 to 10,000 bushels from his 25 year old Jonathans, Sturmers and Five Crowns. Setting is one of the heaviest seen.

Mr. N. Mautach took over his present property in a very neglected condition three years ago; then the wood of the trees was red and the leaves were pale, to-day all is changed. Being a young man with much orchard experience he put the right kind of hard work into the job. He gives Cleos and Granny Smiths two applications of Bordeaux, otherwise his spraying programme is orthodox for the district—two lime—sulphur sprays followed by three arsenate. Jonathans and Sturmers are his best lines, others being Rome Beauties, Five Crowns, Lady in the Snow, Gravensteins and Delicious.

Mrs. Milroy Smith, who since her husband died three years ago has kept the 23 acre orchard up to concert pitch, grows mainly Jonathans, Delicious and Sturmers. Originally planted with Spy stock in 1914 this orchard was later inter-planted with seedling stock with the result that cultivation with tractors is difficult. Chemical bands have been abandoned in favour of hessian.

Mr. Matthews, the well-known Devonport jeweller, some years ago bought himself a fine orchard of 23½ acres at Spreyton, on which he has spared no expense with the object of getting it into absolutely perfect order. At the moment it is looking like a garden, with the soil worked to a fine tilth and not one hessian band so much as an inch out of place. He has been fortunate in that the two prisoners of war, who were allotted to him, both most willing, interested and industrious workers, one a tailor and cutter by trade—hence the hessian bands, the other a carpenter and builder. Varieties are mostly Jonathans, then Sturmers, Delicious, Croftons, Granny Smiths, and Democrats. Codling damage was about 25%, so this year a very thorough programme is scheduled. The bark of the trees was thoroughly scraped before the bands were applied and the first arsenate spray was applied on the calyx. The next is due with white oil on the 15th of December and will be repeated every three weeks afterwards until March.

Messrs. G. and A. Girdlestone are two brothers who started orcharding in 1930 and now control 88 acres in the Spreyton district. Though they grow more Sturmers than any other variety they prefer Jonathans and Democrats for their hanging and keeping qualities. Dunns have been worked over to red Delicious and Five Crowns to Granny Smiths. The porcupine method of grafting, so prevalent in Tasmania, was used, but the end of each branch was allowed to grow on for another twelve months. At pruning time it was lopped off alongside of the last scion, which had been grafted pointing well up. In this way excellent leaders were invariably obtained and die back avoided.

Spy stock is preferred to seedling especially for Jonathans, because seedling stock trees take up to 15 years to come into full bearing, during which time they require heavy feeding and become so high they are hard to spray. Though seedling stock trees do better than spy when their "feet are damp"—a condition which was rectified on this orchard by running pipe drains down alternate rows.

Ploughing is usually done between the green tip stage and the pink, and discing is deferred until the crop has set to avoid disturbing the tree.

Tasmanian News and Notes

BIG APPLE CROP IN PROSPECT — ASSISTANCE SOUGHT FOR HAIL DAMAGE — EXPORT OF 1,500,000 CASES PROPOSED — APPLE PROCESSING — PEST CONTROL.

(By Our Correspondent.)

Hobart (28/12/45).

The season in the north on the whole has been on the dry side up to the present, but there appears to be enough moisture in the subsoil in the well cultivated orchards to maintain growth for some time. The Apple crop is good on most varieties, and given a favourable Autumn for growth the yield should be quite up to normal. Pears in most places are on the light side.

Spraying for moth has in most instances been carefully attended to, and some growers are using lures which catch a lot of moths. The season, I think will be early.

In the midlands the dry spell continues and the stock are starving. Further west, round Fitzgerald, in the milling district, considerable damage has been caused by bush fires, and several sawmills have been burnt down and a lot of timber destroyed. In the southern orchard districts it has been unusually dry, but there appears to be enough moisture in the subsoil to sustain growth for some time, the recent rain was only sufficient to damp the surface.

Omitting the hail damaged areas the crop is good and previous forecasts appear to be correct. Gravensteins, of which only a few are grown, are heavy; Cox's Orange and Jons. average (a good crop), Cleos. are on the heavy side; Croftons are good in most places; Sturmers are irregular; Granny Smith, heavy in most places; Democrat light; T.P. and Geeveston Fanny are both a full crop given early rains.

So far there is very little black spot showing or moth, red spider is not serious at present, but will need watching during January and February. It now appears reasonably certain that the oversea exports will be much larger than last year, probably 1,500,000, but the evaporators will require less than last year, and very little will be required for juice. Pie Apple should be in good demand as the civilian supplies are depleted and it is a very convenient household standby.

Port Huon "Huon cry" fruit juices are in ever-increasing demand, the Black Currant being very popular.

It appears that in spite of hail damage, Tasmania's crop will be sufficient to meet all requirements, provided we get a good rain soon. Pears are growing well the warm weather suits them and being a deep rooter they still have enough moisture.

All varieties of berry fruits are suffering from the dry conditions and supplies are likely to be on the light side.

Apricots are very light, being a practical failure in some places, most varieties of Plums are cropping well.

Seed for green manuring is likely to be scarce, as many of the crops of Beans, etc., are very poor.

The usual series of regattas is being held this year and all are being well patronised, the Hobart regatta will be the biggest since the Centenary.

Hail Losses.

So far we have not heard what the Federal Government intends to do by way of relief for those growers who were cut up by the recent hail storm; some assistance should be given, but it is difficult to say exactly what form it should take and to what extent the growers' losses should be met by relief. It was an unprecedented calamity where the full force of it hit, and it is justly claimed that the compensation paid during the last few years under Acquisition has been insufficient to enable the average grower to build up any reserve and it is not in the interest of the country as a whole to allow any section to be practically ruined. It is expected that the Minister for Commerce will be visiting Tasmania in January and perhaps he will be able to make a definite statement on the matter.

General interest is taken in fruit-growing circles in the new insecticides as it is felt that the standard routine spraying programme leaves much to be desired.

The Proprietors of the following Australian Patents:—

No. 102,332, dated 20th March, 1936, entitled—
"Production of Citric Acid."
Chauncery Chemical Corporation.

No. 113,162, dated 23rd February, 1940, entitled—
"Fruit Seed Severing and Discharging Apparatus."
Mark Ewald and Henry Skog.

No. 109,542, dated 9th May, 1939, entitled—
"Improvements in or Relating to Fruit Bobbing Devices."
Mark Ewald.

are prepared to dispose of the whole or part interest in the patents, or grant licenses on ROYALTY, and invite tenders in respect of same in order to fulfil the full requirements of the trade and the public.

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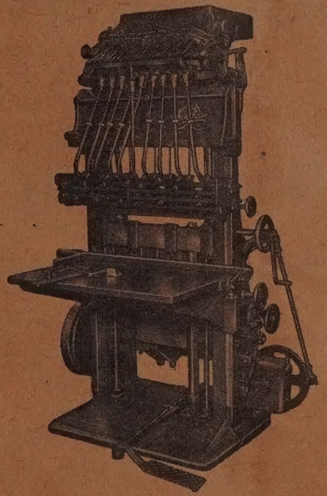

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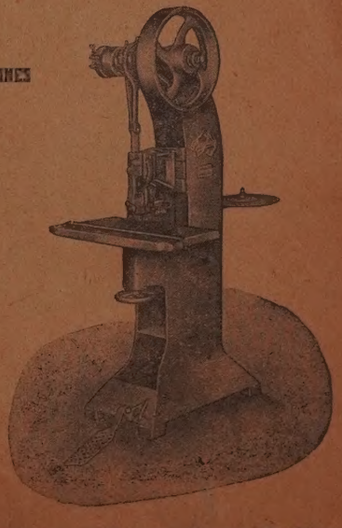

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COMPOST MAKING.

RECENT RESEARCHES have demonstrated the urgent necessity for the making of composts to build up soil fertility.

In New Zealand and in some of the Australian States, "Compost Associations" have been formed to impress on the public generally the importance of this subject.

The following is an item from the Extension Service of the Tasmanian Department of Agriculture.

Compost Making.

The basis of a good compost is the mixing together of both animal and vegetable matter. To this added small amounts of soil and moisture. First of all a layer of vegetable matter—straw, weeds, leaves, dead plants, hedge and lawn clippings, household refuse, seaweed, etc., 6 to 8 inches deep is made and then a layer of animal matter three to four inches is added. Over this a thin layer of soil, say ½ inch deep—is placed and then the whole heap is sprinkled with water till it has the wetness of a squeezed sponge. A sprinkling of wood ashes and/or lime can usefully be added to the soil layers as a base to correct any excessive acidity.

This process is repeated until the heap is 4 ft. 6 in. to 5 ft. high, but it is important to stack the heap as loosely as possible.

Aeration is important as it promotes the acitivity of fungi in the early stages. Rods should be placed in the heap to ensure aeration from top to bottom. Weeds and plants should be allowed to wilt before being placed on the heap. When the heap has been built to the desired height a double layer of manure should be added and then a layer of earth.

During winter months it will be necessary to protect the heap from rain as otherwise many valuable ingredients are liable to be washed out.

Fungi are active for five to six weeks, reaching their peak at about three weeks and the whole heap will be interpenetrated with white fungal threads. The temperature rises to about 150 deg. F. and as it drops the heap sinks and packs. After five weeks the heap should be dug over with a fork, bringing the outside into the middle. The heap should be sprinkled with water while building, but as the bacteria now take over from the fungi aeration is not required. In 12 weeks the heap should have been broken down completely and will be ready for use.

The size of heaps to be made will depend on the amount of materials available, but suitable sizes for farms are 14 ft. x 30 ft. x 4½ ft., and for market gardens, 5 ft. x 5 ft. x 4½ ft. Heaps should be made in sheltered positions and adjoining each other. For small heaps wooden boxes are often made and it makes it easier to handle the material.

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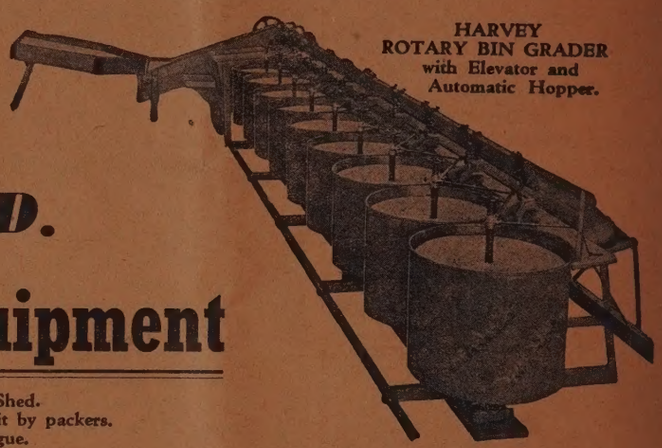

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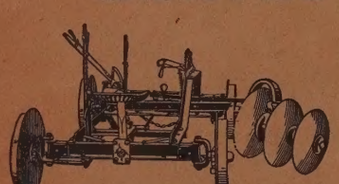

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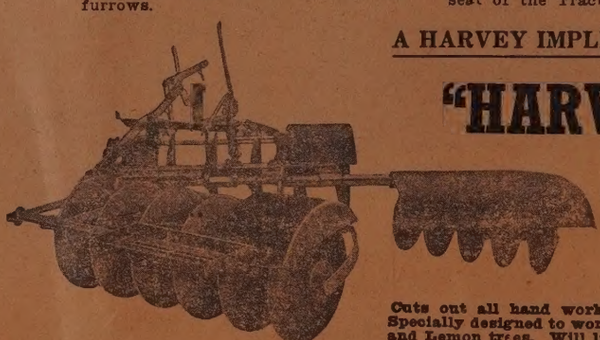

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SOUTH AUSTRALIAN NEWS AND NOTES

Official Reports and Notes of the South Australian Fruitgrowers' and Market Gardeners' Association.

S.A. Fruitgrowers' and Market Gardeners' Association Inc.

Apple and Pear Section.

The annual general meeting of the above section of the Association was held in the New Market Board Room on Friday, December 21, 1945, at 2 p.m. The Chairman (Mr. C. L. Winser), presided, thirteen members present. Apology received from Mr. W. J. Bishop.

Minutes: The minutes of the 1944 annual general meeting were read and confirmed.

Chairman's Annual Report: The Chairman (Mr. C. L. Winser) presented his report (herewith).

Financial Statement: The Secretary presented a financial statement for the period 1/1/45 to 30/11/45, which showed that the Section had made a slight profit for the period.

Mr. C. L. Winser, supported by Mr. G. H. Schultz, moved that both the Chairman's and the financial report be received. Carried.

Executive Committee on Association: The Chairman said that Messrs. W. G. McLaren and M. J. Vickers had sold their interests and would not be available for the Executive Committee this year. Moved Mr. Turner "That Lenswood and Balhannah branches be asked to nominate a member to take the place of the members not available." Seconded Mr. Pritchard. **Carried.**

1946 Committee: It was decided on the motion of Messrs. Randall and Pritchard that the Committee comprise two growers representing growers not connected with a co-operative cold store: One from each co-operative cold store; one representing privately owned cold stores; one from the Fruitgrowers and Market Gardeners' Society Ltd.; and Mr. A. G. Strickland (Chief Horticulturist).

Mr. Pritchard moved "That Messrs. S. E. Green and H. N. Wicks be the growers' representatives on the Committee." Seconded by Mr. Schultz and carried.

Association Activities: The Chairman stated that Mr. Bishop and Mr. Stuart (Secretary) had recently visited the Eastern States and were favourably impressed with the activities of the C.O.D. in Brisbane. A report had been prepared on that visit, and all Chairmen of the Sections had been provided with a copy, with a view to placing the report before their Committees and members at an early date. It was suggested that an institution on the same lines in South Australia would be of great advantage to the growers. Delegates from the C.O.D. would visit South Australia early in February, 1946, and would address members on the subject.

Vote of Thanks: Mr. Pritchard moved a vote of thanks to the Committee for the work that they had done during the past season, and stated that the Committee had spent quite a lot of time in attending meetings, and looking after the growers' interests. His remarks were supported by Messrs. Schultz and Turner, and the motion was carried by acclamation.

Levy on Export Fruit: Discussion ensued as to whether a levy should be imposed on fruit exported overseas, and it was finally decided, on the motion of Messrs. Turner and Caldicott "That it be a recommendation to the new Committee that no levy be charged on fruit that is exported overseas during the 1946 season." Carried.

The meeting closed at 3.37 p.m.

Report by the Chairman, Mr. C. L. Winser.

Gentlemen,

Since we met last year I think you must admit Apple and Pear growers have had a very good time and have much to be thankful for.

Your Committee and Officers have not had such an easy time because they could not get supplies as freely as merchants wished, and we realised that this was because of the favourable market in Eastern States. However, that is finished now and I want you to admit that without your Committee during the past three years you would not have been anything like so well off or ready to meet the problems now before you.

Future Plans: What we have to consider now is the future with restrictions being removed, better crops in Eastern States, more shipping available. We sent Mr. Bartram and Mr. Gleeson to Queensland and N.S.W. to see what they could learn about future markets and distribution in these States, and they have brought back valuable reports to use and are satisfied there is a good regular market for us at certain periods each year, but it is competitive and absolutely essential that the grading and packing should be the best. Very poor fruit has been sent and that soon spoils your market. There are very long rail journeys in Queensland and nothing but the best is worthy of sending. I am sorry to report that on our local market we had reports of fruit being topped up. Such practice must be stopped. Mr. Bartram and Mr. Gleeson are available at all times to advise you and will later visit the various cool stores and address meetings.

Interstate Conference: The next important matter is the Interstate Conference of Apple and Pear Growers held in Melbourne early December. We sent three delegates and the main function was to agree to get together as grower organisations from each State and form an Association to look after our various interests. This State is fortunate in having such an organisation as the F.G. and M.G. Association to be ready to represent you. The spirit of the Conference was good and a real desire shown to form a growers' organisation to function and co-operate the ideas and problems of each State.

I won't give you all the details, there are many new problems arising with altered conditions in the World Empire Preferences, etc., but at meetings your Committee will call we can enlarge on them.

Export: Next I want to say a word about this coming year's export. Some to Sweden and some to Great Britain. Sweden, under more or less pre-war conditions, Great Britain through the Apple and Pear Marketing Board, for which each State has been allotted a quota in accordance with a four-year pre-war average. S.A. Share is 112,500, approximately ⅛ its average. Your Committee feels it is absolutely essential that you take up S.A. quota for at least two reasons. One that it is most important to hold our right to a quota which was getting a difficult problem pre-war. Second, to do our part in providing food for Britain. Don't be foolish and growl about the prices, we ought to be glad to have the opportunity to renew our trade and I do appeal to you all to do your share. Don't be selfish and say "Oh, let the other fellow do it, the local market will do me." Plans are being made to get boxes, paper cardboard and the Association will do all it can to make a success of this renewal of export. We have got to pack and put up the best and so get a good name again.

Local: From what information we can obtain the crop is a lot bigger than last year, also bigger crops in N.S.W. and Victoria, so don't think we can send so many cases there. Your Committee contributed £75 towards the Association's fine donation to the Food for Britain Fund, and I trust you approve of that.

Funds: I will report on our funds shortly and wish I could say that all growers willingly pay the levy. I am glad to say some have come forward this year and paid it and I urge all of you to talk to those who don't pay and try and persuade them to join with us in full co-operation to manage the welfare of our organisation.

Officers: I will finish by thanking our officers for their work during the year, and as this is all voluntary on our part their job is not always at all easy. You should also thank your Committee men for giving their time and thought to your affairs. I would also suggest that you should not leave all the work to your Cold Store Managers. You want grower control —well work for it.

BERRI (SOUTH AUSTRALIA) EXPERIMENT ORCHARD.

Annual Field Day.

There were large attendances at the recent Annual Field Day at the Berri Experiment Farm and the end of November. The Manager, Mr. O. E. Halliday, conducted visitors over the orchard and told of manurial and spraying experiences. Mr. F. Fox gave a demonstration of the budding of citrus. Visitors included the Director of Agriculture (Mr. W. J. Spafford), the Chief Horticulturist (Mr. A. G. Strickland), the General Secretary of the Agricultural Bureau (Mr. F. C. Richards), also district Horticultural advisers, Messrs. C. G. Grasby, F. Kemp and C. Pollitt.

In the evening, Mr. Strickland spoke on the subject "How to maintain Soil Fertility under Irrigation Conditions."

The proceedings were generally under the guidance of the president of the Berri Branch of the Agricultural Bureau, Mr. Ray Moss.

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Some Popular Misconceptions Concerning Plant Diseases

(By N. H. White, Plant Pathologist, Tasmanian Dept. of Agriculture.)

ONE OF THE CHARACTERISTICS of man is his reluctance to accept anything that opposes his long-held views on any particular subject, and this applies to many erroneous ideas which are prevalent in regard to plant diseases. Some of these misconceptions are discussed here and the actual facts are explained for the benefit of those who hold incorrect views in regard to these matters.

1.—Causes of Plant Diseases.

Most frequently the weather is held to be the sole cause of plant diseases, but though adverse weather conditions are frequently the cause of unthriftiness and even the death of plants, and though some weather conditions may be conducive to the infection of plants by disease organisms or increase the severity of an infection, it is not the only factor, and not always by any means a necessary factor in causing diseases. It should be realised that in parasitic diseases of plants, three factors must always be present: (i) a susceptible plant, (ii) the parasitic organism, and (iii) the right surroundings or environment for the growth of the parasite on and in the host.

There are, of course, different kinds of parasites that will attack plants and cause disease. These are fungi, bacteria and eelworms, and there are infective particles in the sap of some plants called viruses. Quite often the term virus is mistakenly used when fungi or bacteria are concerned; and this is important because once a plant has become infected with a virus it cannot be cured, whereas plants infected with fungi or bacteria may be cured of the disease.

Except for some few diseases referred to as physiological disorders, the important thing to remember about plant diseases is that the parasite or virus must always be present before the disease will occur. However, the severity of the disease may be greatly modified by the environment of the host plant. Thus, in warm, dry weather, the fungus causing Irish Blight of Potato will not develop, or, if the soil is not acid enough, the Club-Root-of-Cauliflower fungus will not cause the disease.

Plant diseases are prevented and controlled by modifying the enviroment, by destroying the parasites and weeds carrying viruses, and by growing resistant varieties of host plants.

Modifications of the enviroment may mean altering the acidity of the soil, improving the air supply to the soil, and by growing the plants in locations that give conditions of temperature, humidity and light unfavourable for the development of the parasite. The parasites are destroyed by chemicals as in sprays and dusts, and by heat as in soil sterilisation. Many viruses affect different species and varieties of host plants which often include common weeds. The viruses are spread mostly by insects, and these may over-winter on weeds and be ready to infect the crop plants in spring.

The severity of some diseases may be modified but not prevented by the application of fertilisers or manures to the soil. This applies particularly to some diseases caused by weak parasites which will only attack when a plant is weakened. On the other hand, care must be taken to avoid unbalanced nutrition of the host plants. Thus, if too much potash is applied to many plants they are rendered susceptible to the Powdery Mildew fungi. Again, excess soil nitrogen tends to produce soft, succulent growth which is more liable to attack by fungi and bacteria.

2.—Soil and Disease.

Frequently small tins of soil are submitted for analysis so that a disease may be diagnosed. It will be appreciated from what has been said above that a soil sample alone can provide very little information. At the best—and this does not amount to very much—such a sample will indicate whether the soil is acid or not. Even if a nutritional deficiency disease is suspected these small samples would not yield the required information because it is not a matter of how much of the plant food is present, but how much of it is available to the plant. Analysis of soil, even when the sampling is carried out correctly, will not give information on the availability of plant foods. If soil samples are required for analysis they should be taken correctly, and this is most effectively done by persons specially trained. However, analysis alone is not sufficient, but special sensitive test plants should be grown in areas suspected of being deficient in plant foods.

Where plant food deficiency diseases are suspected it is advisable to send in specimens of the plants showing symptoms. These samples should include as much of the specimens as possible (obviously large parts of fruit trees cannot be sent). In the case of orchard crops, leaves on short branches often provide a clue from the symptoms, but analysis of these tissues may not give much indication of the deficiency, as the time of sampling in relation to the phase of crop development is all important. **The sampling of soils and plant tissues for chemical analysis should always be left to a trained officer of the Department.**

3.—Sulphate of Iron as a Protectant Plant Food.

RECENTLY A NUMBER of orchardists have expressed the opinion that sulphate of iron applied to the soil prevents or reduces the severity of parasitic disease, especially leaf spot diseases such as Black Spot of Apple and Septoria Leaf Spot of Black Currant. It is also believed that sulphate of iron can replace potash fertilisers and thus increase the resistance of the plants to disease. It may be stated quite definitely that **Sulphate of iron applied to the soil does not increase the resistance of plants to leaf spot diseases and cannot in any way replace potash**

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fertilisers. Furthermore, its addition to the soil does not release hitherto unavailable potash by displacing it from the soil particles as is the case when sodium salts are added to the soil in moderate amounts.

When sulphate of iron is added to the soil in excessive amounts, that is, at the ordinary fertiliser rates, it will probably do a lot of harm by "locking up" or rendering other plant nutrients insoluble. This applies particularly to soluble phosphates in the soil. Application of iron salts results in the formation of insoluble iron phosphate. Tasmanian soils do not, as a whole, show a deficiency of iron, but in soils that do exhibit symptoms of such a deficiency only a very small amount of sulphate of iron is needed to rectify the condition. Most rapid results have been obtained by spraying a very weak solution on to the foliage of the plants, but only in rare instances is this necessary in Tasmania.

4.—Sulphate of Iron as a Fungicide.

It is often claimed that the addition of sulphate of iron to sprays such as lime-sulphur greatly increases the effectiveness of the spray as a fungicide. Very extensive research work covering this aspect has shown that the only effect of sulphate of iron in spray mixtures is to reduce spray injury. This is seen in the reduction of russeting of the fruit and the delaying of leaf-fall in autumn. Sulphate of iron has been used in attempts to control Armillaria Root Rot of fruit trees and Fungal Disease of turfs. For both these diseases there are more effective fungicides, especially some of the new organic preparations now on the market.

In Tasmania the virtues of sulphate of iron are much over-rated, but its adherents are likely to need a considerable amount of convincing of this fact.

5.—Lime as a Fungicide.

The question is often asked "Will the application of lime to the soil or to diseased tissue kill the germs of disease?" As a soil sterilant, lime in any other form than quicklime is ineffective, and when added as quicklime excessive quantities must be applied to be effective. It must be remembered that lime is very alkaline and excessive amounts of it in some soils will make the soil too alkaline. The so-called "sweetening" effect of adding lime in various forms to the soil does not mean that parasitic soil-borne organisms are destroyed. In some diseases such as Club Root of Cauliflower, the addition of lime to acid soil prevents the development of the disease because the organism is only active in acid soils, but lime does not kill the fungal parasite.

The application of lime in its various forms (i.e. as carbonate of lime or a mixture of both in agricultural lime) to plant tissues, either to protect them from attack by fungal and bacterial parasites or to kill these parasites in the tissues, is not very effective. In fact, the covering of the foliage of most plants with lime is a harmful procedure because the lime, being strongly alkaline, is likely to cause chemical injury, and because the covering of lime obstructs the absorption of light energy which is essential for the manufacture of food by the plant. This is a practice to be strongly discouraged as it is one that will do more harm than good. Moreover, it should be remembered that the fungicidal properties of lime are poor. On the other hand, it is an important ingredient in the copper and sulphur sprays both as a protectant and a spreader, besides producing a necessary chemical reaction with the copper or sulphur.

Many other popular misconceptions about plant diseases could be discussed, such as introducing copper or iron nails into Peach trees to prevent them from being affected with Leaf-Curl, the use of "cure-alls" and the like; but enough has been said to call to question some of those familiar ideas long held about plant diseases. If the reader finds himself disagreeing strenuously with what has been said in this article it is a clear indication that the time is overdue for a renovation of his ideas about these matters. — Tasmanian Journal of Agriculture.

QUEENSLAND

FRUIT MARKETING ORGANISATION ACT AMENDED — PINEAPPLE AND BANANA TRADE — QUEENSLAND CANNERY DEVELOPMENTS — SMALLER CASE FOR BANANAS — NEW COOL STORE AT THULIMBAH — VEGETABLE MARKETING PROBLEMS — NEWS AND NOTES.

The Bill amending the "Fruit Marketing Organisation Acts" duly passed its third reading on November 28. It followed very closely the recommendations of the Royal Commission on Fruit and Vegetables, and the only controversial section was one giving the power to the Government to direct the C.O.D. to open branches in various centres. This clause reads as follows:—

"The Governor in Council may, from time to time, by Order in Council require the Committee of Direction to carry on as principal the business of supplying fruit and vegetables by retail or wholesale, or both, in such Local Authority Areas as are specified in such Order in Council."

It is very unlikely that the Government will ever have to exercise this power as the C.O.D. has ambitious plans for extending its distribution facilities to many of the smaller Queensland towns. At the present time accommodation is an almost insuperable obstacle, but premises have been secured in Charleville, 483 miles west of Brisbane, and at Gympie, 106 miles north of Brisbane.

Each branch will be equipped with one or more cool rooms, and will concentrate on retail distribution. In addition there will be wholesale departments, and distribution to country centres of mixed cases of fruit and vegetables. Each branch will also be used as a distribution point for cases of straight fruit whenever the main markets become over supplied with fruit of a quality suitable for transport to, and distribution from, country depots.

Premises have also been secured in Mackay, mainly for wholesale purposes, but as considerable structural alterations will be necessary, in addition to the erection of Banana ripening rooms and cool rooms, it will probably be late in 1946 before this branch is opened.

North Queensland.

In North Queensland vegetable production of most lines was sufficient to meet trade requirements, but fruit was generally scarce with the exception of the northern tropical fruits, Pineapples and Bananas. The Summer crop of Pineapples was in full swing, and Bananas at times in oversupply. The far northern crop of Pineapples was the heaviest experienced for some years, but ceiling prices prevailed for good quality lines as the southern demand was particularly strong.

The C.O.D. is continuing its road delivery service to points as far south of Cairns as Tully. The northern fruit shortage was relieved by mid-December with adequate supplies of Plums, but trouble was encountered at Innisfail. Plums were being distributed there by the C.O.D. at 15/- per case. Penneys, a distributing chain similar to Woolworths and Coles, set a retail price of 10½d. per lb. as against the other retailers' price of 1/6 per lb. The C.O.D. was immediately threatened with a boycott unless it discontinued selling to Penneys. The threat was, of course, ignored, but Innisfail is one of the centres which must necessarily now be given early consideration for a retail/wholesale branch of the growers' own organisation, as challenges such as this cannot be tolerated either by the growers or the consumers.

Bowen: A good crop of choice Mangoes is being marketed, and until late in December met a very ready demand at high prices, but the latter end of the crop was naturally affected in realisations by the competition of other fruits.

South Queensland.

The Pineapple crop has been particularly light, but during December the local shortage was very largely eased by fairly substantial quantities from North and Central Queensland marketed in Brisbane and also in Sydney.

The South Queensland Summer crop of Smoothleaves promises to be earlier this year, and prior to Christmas the first of the local Rough and Ripley crop, which matures earlier than does the Smooth, appeared on the market. They will be the main variety supplied the Brisbane public during the month of January.

Legal Case.

The unfortunate illness of the plaintiff in the McClintock case has necessitated a further postponement pending his recovery. It is now unlikely that the claim against the Commonwealth for fair compensation for the Pineapples compulsorily diverted for canning under the National Security Regulations will be heard until the end of February.

Queensland Cannery.

The Pineapple Sectional Group Committee is now considering whether it will continue its agreement with the Victoria Cross Co. providing for the joint ownership of Queensland Canneries Pty. Ltd. The Agreement, which was entered into in 1938 provided that the Pineapple industry and Victoria Cross Cannery should each hold an equal share in Queensland Canneries Pty. Ltd., but that the management of Q.C. should remain the prerogative of V.C.

After a seven-year try-out, the Pineapple Committee has decided that a continuation of the Agreement would not be in the interests of the Pineapple industry. Accordingly, the

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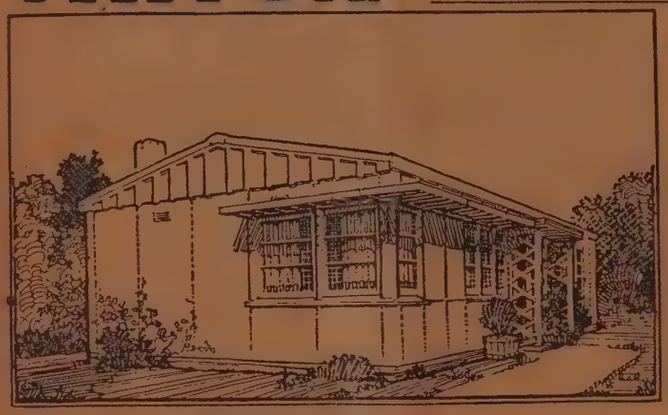

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THE WELL KNOWN TRITON HUTS AND SLEEPOUTS ARE STILL AVAILABLE.

Committee recently offered to purchase the Victoria Cross's interests in Queensland Canneries. Victoria Cross is a subsidiary of H. Jones and Co. Pty. Ltd. This was turned down, and investigations are now being made in the possibility of establishing a Growers' Co-operative Pineapple Cannery constituted on similar lines to the Victorian Co-operative Canneries. A decision to withdraw from the Queensland Cannery Agreement will have to be made before July, 1946.

Bananas: Considerable interest is being created by a proposal put forward at the November meeting of the Banana Sectional Group Committee of the C.O.D. that a smaller case and full hand pack be introduced to replace the present 1½ bushel case and the single pack.

Experimental consignments utilising the new case and pack have been forwarded to the south and have received favourable reports. The proposed case will contain approximately 70 lb. of fruit net as compared with the average of 90 lb. contained in the 1½ bushel case. It is considered that the reduction in weight will help to eliminate breakages which occur through the inability of the average man to handle the big case comfortably. The small case also is very suitable for packing in hands.

Squirter and West and Black End diseases which are responsible for very heavy losses to growers during certain seasons of the year can be definitely traced to the present method of packing, i.e., breaking the full hands into single fruit. It is expected that most of this trouble can be eliminated by the use of the new pack.

Cool Store at Thulimbah.

At a recent meeting of the Deciduous Sectional Group Committee it was decided to alter the plans on which the Committee had been working for the construction of a cold store of 20,000 case capacity and a packing house at Applethorpe. A privately-owned cold store and packing house was recently erected at Applethorpe and the Committee decided to build a cold store at Thulimbah, which is in the heart of the Apple producing section of the Granite Belt. It is proposed to construct in brick as soon as possible after the necessary permit is secured. The cold store will be erected adjoining the Thulimbah packing house which is owned by the Deciduous Sectional Group Committee.

Dr. Trout, of the Department of Agriculture, is conducting tests on iced wagons with a view to instituting a refrigerator service to North Queensland from the Stanthorpe District with fruit supplied by the D.S.G.C. and by Mr. Barlow, the owner of the Applethorpe cold store.

There is a possibility that Dr. Trout may require structural alterations made to the existing Queensland iced wagons before he can recommend their use for fruit on the Northern run.

The D.S.G.C. has decided to increase the fruit and vegetable levy from 3/4 to 5/- a ton to enable it to establish reserves for developments in cold storage and distribution.

Weather conditions have been kind to the Granite Belt and excellent prices have been realised for Wilson Plums, the main variety grown in Stanthorpe, with the exception of two days, December 10 and 11, when the markets were over-supplied with ripe Plums, due to a period of hot weather.

The Cabbage market has been over-supplied, with prices down to pre-war levels. In their plantings growers did not make allowance for the loss of most of the service demand.

AUSTRALIAN VEGETABLE GROWERS.

Marketing Control Legislation Sought.

TWO IMPORTANT CONFERENCES of Vegetable Growers were held at Melbourne recently. It was unanimously decided to ask all State Governments to introduce legislation on the lines of the Queensland Primary Producers' Organization and Marketing Act.

Delegates were present from all the Australian States. Mr. B. Flewell-Smith, Manager of the Committee of Direction of Fruit Marketing (which operates under the act above-mentioned) gave details of the Organization and activities of the C.O.D.

EELWORM SCAB OF POTATOES.

Considerable damage to Potatoes may be caused by the eelworm. Officers of the Biological Branch of the Victorian Department of Agriculture point out that affected tubers are easily detected by the presence of nodular or wart-like swellings on their surfaces. Often these swellings are few in number, but in severe cases the entire surface of the tuber may be covered.

The female worms, which cause these swellings, are found in clear areas, embedded in the tissues of infected tubers when cut across.

The effect of eelworm attack on those portions of the plant above ground, may be very slight. Sometimes the plants are slightly stunted, but under other conditions, although the tubers may be heavily infested, the plant may appear normal.

Potato plants may become infected if grown on an area already infected with eelworms, or by the introduction of eelworms in the "seed." Eggs and larvæ of the worm may survive in the soil for a period of up to two years. However, owing to the large number of different species of plant attacked by the worm, it may remain indefinitely in an infested area if proper steps are not taken to control it, because of the fact that many common weeds act as hosts for the worm and ensure its carry-over from season to season.

Rotation.

Serious attacks of eelworm have often followed the practice of growing Potatoes continuously on the one area. In addition, eelworms often cause severe losses in Potatoes following pasture, as many pasture plants are hosts for the worm.

Crops known to be immune from attack by eelworm should be grown in rotation with Potatoes. Most varieties of rye, wheat and oats are resistant to attack, and it has been observed that, under Victorian conditions, a rotation in which an oat crop is incorporated with Potatoes, particularly as a green field crop, gives satisfactory control of eelworms.

Seed Selection.

Growers should take every precaution to ensure against the introduction of the pest into clean areas by means of infected seed. All seed showing the characteristic wart-like swellings typical of eelworm attack, should be discarded for seed purposes and only clean seed should be used for planting.

CONTROL OF RED SPIDER.

Importance of Clean Cultivation.

THE SMALL MITES known as red spiders do most damage during the period January to April.

This pest feeds on various weed, garden and field crops, shrubs and trees states the Biological Branch of the N.S.W. Dept. of Agric. Beans, Peas and Strawberries may become heavily infested, and during periods of dry weather Rock Melons and Cucumbers may be seriously injured. Pumpkins, Squashes, Lettuce, etc., may also be attacked, and amongst ornamental garden plants that may be seriously damaged are Roses, Violets, Dahlias and Sweet Peas.

Clean cultivation, and the destruction of weeds, etc., are important factors in preventing its spread. When rain occurs, thousands of mites may be beaten to the ground, carried along with the surface water, and so come to rest in lower areas, and there infest other crops.

On plants such as Beans and Strawberries a dust consisting of a mixture of:—

Fine sulphur .. .. .. 1 lb.
Hydrated lime .. .. .. 1 lb.

may be used to control them. This dust, giving each plant two or three blasts from the duster, is used at the rate of 150 lb. per acre.

Spraying with lime-sulphur solution diluted at the following rate is also effective:—

Lime sulphur solution (concentrated) .. .. 1 gal.
Water .. .. 100 gal.
(For small quantities, 1 fluid oz. to 5 pints water.)

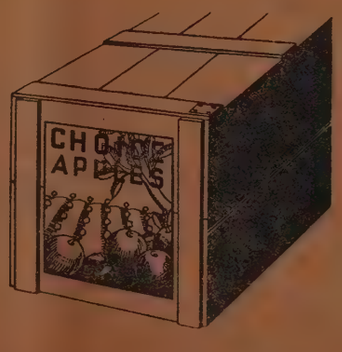
On Cucumbers, spraying has given better results than dusting, but for Beans and Strawberries the dust is more effective and easier to apply. With either the dust or the spray, two applications, with an interval of a week, are required.

For hardy shrubs, a single application of white oil emulsion at a dilution of 1 in 40 (4 fluid oz. to 1 gallon of water) is recommended for control.

THE TOMATO MOTH.

Losses of up to 50 per cent. of the Tomato crop may occur from attacks by the Tomato moth, unless adequate control measures are taken. Entomologists of the Victorian Department of Agriculture point out that, in addition to Tomatoes, the moth will attack Sweet Corn, Maize, Potatoes, Flax, garden plants, and vegetables generally.

The caterpillars or grubs of the moth usually enter at the stem end of the fruit, and damage may not be apparent from an outward examination. With the development of the grub inside the Tomato, the fruit may either fall or show a development of



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"rot" around the point of entry. On cutting open the Tomato, the interior will be seen to be partly eaten out, a black mass of excreta usually remaining. One grub may travel from one Tomato to another, until all the fruit in a bunch is destroyed.

Two other different kinds of injury also may be apparent. If the grubs of this insect attack the plant just at flowering time, they may so completely destroy the buds and flowers that no fruit is set. In addition, they have been known to attack the foliage, causing a similar type of damage to that caused by the common cut worm.

:: :: ::

Control of the pest can be accomplished either by spraying or dusting the Tomato plants and fruit with arsenate of lead. On account of their case of application, dusts are preferred to sprays by the majority of commercial growers.

Where dusts are applied, a 50 per cent. arsenate of lead dust, or where sprays are used, 2 oz. of arsenate of lead powder in 4 gallons of water, with or without spreader, will prove most satisfactory. Applications of either of these materials should be made at intervals of seven to ten days, the first application being made as soon as the first blossoms commence to set, dusting or spraying to continue for a period of six to eight weeks. If arsenic is to be seen on the fruit at picking time, the fruit should be either wiped or washed prior to marketing.

POTATO GROWING.

Victorian Crop Conditions.

Applications for Potato contracts received by the Victorian Department of Agriculture for the year 1945-46 cover an area of approximately 90,000 acres to be planted by some 8,000 growers. As applications for acreage substantially exceed the area that can be allotted under contract, further applications cannot be accepted. Growers holding mid-season and late contracts have been advised that the allotted area must be reduced by 25%. Completed contracts returned to the Department represent only 80,000 acres.

In the Warrnambool, Koroit and Colac areas, prospects appear to be normal, and heavy yields are expected from the Manistee and Up-to-Date varieties around Koroit. On the Bellarine Peninsula prospects are good, and yields of up to 6 tons per acre are expected from the Sebago variety. In South and Central Gippsland, the early crops appear to be backward, but prospects are considered to be good. The Katahdin variety promises particularly well on the Kooweerup Swamp.

Deliveries.

Deliveries of last season's Potatoes during November were 3,592 tons, including 22 tons of stock-feed. This makes the total deliveries to date, for the 1944-45 season, 227,592 tons. During the month 563 tons of the new season's crop were delivered to metropolitan depots.

Prices.

The price of No. 1 grade Potatoes is £12 or £12/10/- per ton, according to variety, plus the late delivery premium. The price being paid for new Potatoes in November was £14/10/-.

Tomato Investigation

GLASSHOUSE AND OPEN CULTURE CONDITIONS — SOIL STERILIZATION AND TREATMENT — FERTILIZERS AND WATERING.

INTERESTING RESULTS FROM NEW ZEALAND.

DURING the past season work has been continued on the treatment with steam and soil disinfectants of both glasshouse and outside Tomato soil. Further work on "cloud" has been carried out in our Tomato house and the incidence of "hard core" in both glasshouse and outside conditions of culture has been studied (states the Cawthron Research Institute, Nelson, N.Z.).

1.—Use of Steam and Formalin for the Treatment of Glasshouse Tomato Soil.

Both steam and formalin treatment of the soil has been carried out and Tomato plants tested both with and without fertiliser treatment.

Treatment.

	Yield per plant.
Steamed each season	8 lb. 2 ozs.
Unsterilised for 2 seasons	4 lb. 15 ozs.
Formalin treatment (previously unsterilised for 3 seasons)	6 lb. 5 ozs.

Note: Standard Fertiliser and standard watering used on all the plots.

The results confirm the great importance of steam sterilisation in improving the yield of glasshouse Tomatoes under Nelson conditions of culture. Distinct improvement in yield but not so great as with steam treatment followed the use of formalin at the rate of 1 pint of 40 per cent. formalin per square yard of soil. Further evidence was obtained of the deterioration in both growth and yield of Tomatoes when the soil remains unsteamed for two successive seasons. Thus the yield on the unsteamed plot in the first year was 5 lb. 10 ozs. per plant. In the second season the yield fell to 4 lb. 15 ozs.

In previous years, the effect of fertilisers in augmenting the yield of Tomatoes on steam sterilized soil has been comparatively small. Some evidence, however, was obtained last season that yields were falling when fertilisers were omitted from the steam sterilized plots for two successive seasons. This year the plots without fertiliser showed distinct symptoms of nitrogen shortage and growth of plant fell below the corresponding plots with fertiliser. The yields of Tomatoes were correspondingly affected, as the following figures show:—

Treatment.

	Yield per plant.
Sterilized plus fertilizer	7 lb. 9 ozs.
Sterilized (no fertilizer for 2 seasons)	5 lb. 6 ozs.

On the unsteamed and formalin treated plots, the use of fertilizer was accompanied by increased yield.

The drop in yield on the steamed plots without fertilizer suggests that the amount of available plant food liberated by steam sterilization is insufficient in the second season to provide for optimum growth and yield of Tomatoes.

2.—Tests of Soil Disinfectants on Outside Tomato Soil.

The use of steam and formalin has been continued on outside Tomato soil. In addition, chloropicrin was used for the first time in these experiments.

In the early stages of plant growth following the use of steam or soil disinfectants, decided benefit to the growth of the plants was obtained with all treatments. Chloropicrin and steam treatment resulted in particularly vigorous growth which was in striking contrast to the rather poor growth on the unsterilized plots. Unfortunately very wet conditions prevailed throughout the season and despite the application of sprays, disease became very prevalent making yield records unreliable. In this experiment the Potentate variety of Tomatoes was used. In the previous season under much drier conditions, this variety had given splendid results but under wet conditions it showed greater susceptibility to disease than the Kondine variety.

3.—"Hard Core."

During the past season records have been kept of the amount of "hard core" on individual plots with different fertilizer treatment or with different soil disinfectants. The wet season with a high degree of disease incidence was unfavourable to the experiment and little new information was secured. "Cloud" which is seldom seen under outside conditions of Tomato culture was present in considerable amount this year.

Observations concerning the incidence of "hard core" were made in the glasshouse where Tomatoes under different conditions of fertilizer and soil treatment were available. Some plots showed a considerable amount of "hard core," the worst plots for this disorder being the formalin treated and the unsteamed plots both without fertilizer. "Cloud" on these two plots was very low.

4.—"Cloud."

The Dreadnought variety was again tested under different conditions in the Institute glasshouse. Individual records were kept of some 260 plants under different treatments including steam sterilization, use of fertilizers, different rates of watering and pruning. In addition plants were grown in sand and fresh soil to secure information concerning the incidence of "cloud" apart from old Tomato soils or soils that had been steam sterilized. Although the records are not yet fully assembled, it can be stated that further confirmation has been obtained concerning the association of "cloud" with heavy watering of the plants and a great reduction of "cloud" when the normal watering programme is restricted.

The following results show the effect of different rates of watering on the incidence of "cloud" during the past season:—

Rate of Watering	"cloud" per cent.	Yield per plant lb.
Half Standard	4.1	7 lb. 14½ ozs.
Standard	19.1	8 lb. 11 ozs.
Double Standard	32.5	8 lb. 7 ozs.

SOY BEANS.

No Large Developments Expected in Australia States N.S.W. Expert.

While Soy Bean was acknowledged as one of the most valuable plants in the world, the opinion was recently expressed by Mr. H. Wenholz, Deputy Chief of the Plant Industry Division of the N.S.W. Dept. of Agriculture, that it was unlikely to be a major crop in Australia.

Continuing, Mr. Wenholz said that more than 15,000,000 acres in U.S.A. devoted to this crop, substantially for stock forage. The Soy Bean crop had a multitude of uses. Tests had been carried out for 30 years by the N.S.W. Dept. of Agric., the world being combed for varieties for testing under Australian conditions.

CODLING MOTH PARASITES.

The Cawthron Institute, Nelson, N.Z., reports that three parasites were imported from North America in 1942. One of these, Ephialtes caudatus, a larval parasite was reared and liberated in abandoned orchards in 1943. Despite careful inspections during 1944-45 season, no trace of the parasite could be found.

During the past season, another larval parasite, Aenoplex carpacapsas, was reared in small numbers and liberated.

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Goulburn Valley News and Notes

(By Our Correspondent.)

SUCCESS WITH D.D.T. AGAINST THE RUTHERGLEN BUG.

Mooroopna (2-1-46).

DURING the second week in December, Goulburn Valley Orchards were visited by a plague of Rutherglen Bug, which proved to be the most disastrous in the history of this fruit growing area.

The pest became so serious that a special meeting of all Fruit Growers was called to discuss means to combat the pest. Trial sprays had already been carried out on The Tatura Research station with D.D.T. with 100 per cent. success.

Urgent representations were made to the Commonwealth Government to release all available D.D.T. to the growers to spray their orchards. This was granted. Then the manufacturers took the matter up; to put the D.D.T. up in emulsion form. They were working feverishly against time, and performed a wonderful job in putting up the emulsion in so short notice.

One ton of D.D.T. made up five tons of emulsion spray, but alas the Bugs had ten days' start and much of the damage was done before the spray could be applied to the trees; and then it was a colossal job for the growers to get the spray on the trees with all other urgent work to be done. However, most growers settled down to the job and sprayed the Peach trees with the result that all bugs had disappeared from sprayed trees within 24 hours without any injury to the fruit. Sulphur smoke fires were kept going in most orchards before the spray arrived and kept the bug on the move, this saved much fruit. But in spite of all our work, the damage has been extensive. Some growers claim that the whole of their Peach crop has been destroyed, while Shepparton growers estimate 75 per cent., while some Ardmona growers are down to 50 per cent. damage.

There is a growing opinion that the slightly bitten Peaches will recover and still be fit for canning, for nature has wonderful recuperative powers. However, the accurate amount of damage cannot be determined until the Peaches are in the hands of the canners and personally the writer feels confident that a higher percentage of clean fruit will be picked than at present estimated.

In the young Peach orchards at Cobram, where there was a wonderful crop showing, the damage has been very severe, worse even than in the Valley.

On Messrs. Young & Turnbull's Peach orchards at Cobram an experiment which was unique in the history of Australian Fruit Growing was carried out. A trial spray was carried out by a Beaufort Bomber, flying 100 ft. above the orchard with a mixture of D.D.T. spray, but owing to climatic conditions and wind the results were unsatisfactory.

This particular aeroplane had been specially fitted for spraying jungle swamps in the Islands for mosquitos and the experiment was carried out under the supervision of the Department of Horticulture.

Great damage has been done to canning Apricots and canners are greatly concerned as this will mean an extremely light pack of Apricots. Fly marked fruit is being processed for pulp.

And as the W.B.C. Pear crop is also light prospect for the canning season are anything but good.

The D.D.T. spray was used at the strength of 1 gallon emulsion to 200 gallons of water and the cost of the mixture was £3 per gallon plus freight.

The one bright spot is that a remedy has been found to cope with future plagues and we believe that D.D.T. will in future be a boon to orchardists in dealing with insect pests.

SHEPPARTON CANNERY.

At the 28th Annual Meeting of Shareholders of the Shepparton Preserving Co. in mid-December, the Chairman, Mr. A. W. Fairley, C.M.G., said last season there was a record turnover, viz. £1,130,922 being an increase of £46,671 on the previous year.

The profit for the year of £52,306 after providing for depreciation and taxation was to be used in paying 15% dividend on ordinary shares and 6% on preference shares, plus transfers to reserves. For the 10-year period, the total trading profit earned was £724,800 of which £334,000 was paid to growers as additional payments for fruit supplied and £152,900 in dividends to shareholders.

VICTORIAN CROP CONDITIONS.

Because of the large Apple crop in Victoria, some growers expect difficulty in finding sufficient cool storage space. This is stated in the monthly report of the Vic. Dept of Agric., dated January 4, 1946. Other items include the following.—The heat wave in December caused sun scald on Apples in some districts. The Rutherglen Bug damaged about half of the Peach and Apricot crops; this pest, also the weather reduced the berry crops.

The Sultana tonnage is expected to be above average. Currants are lighter, Walthams only fair; Gordos good.

Harvesting of Valencia Oranges is complete in the Mildura area. There was a considerable dropping of leaves and young citrus fruit so far it is not possible to estimate the coming crop.

Vegetables.

Good crops of Tomatoes are being harvested from the Northern districts. The green vegetable bug has appeared in large numbers in some Tomato plantations in the Bendigo district.

The Rutherglen bug is attacking vegetable seed crops, Carrot seed crops being the most affected.

Crops of Peas harvested for canning in the Koo-wee-rup district have given satisfactory yields. Pea seed crops in the Bellarine district are being harvested and are yielding satisfactory crops.

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TASMANIAN STATE FRUIT BOARD.

At the December meeting of the Tasmanian State Fruit Board, there were present: Messrs. T. G. Thompson (Chairman), D. F. Calvert, R. H. Thompson, C. O. Smith, T. A. Burnaby, J. S. Bulman, J. R. Abel, and the Secretary, Mr. A. J. Honey.

Hail Compensation.—It was decided to press for full payment on a measurement basis, for growers who had suffered hail damage. The Chairman said that owing to harm to buds, it was probable there would be no crop the following season on damaged trees. Despite hail damage, the Tasmanian Apple crop was expected to be about 6,000,000 bushels this season.

Sydney Markets.—The Government marketing officer in Sydney (Mr. H. McKay) attended by request and stated that shipments from Tasmania to Sydney in 1945 were 951,240 cases of Apples and 17,806 cases of Pears, as compared with 1,171,477 cases of Apples and 73,064 cases Pears in 1944. Western Australia had sent 67,487 cases of Apples to Sydney in 1945 as compared with 85,144 the previous season. There was an acute shortage of Apples in Sydney in 1945. Supplies were rationed and most were sold at ceiling prices.

Mr. McKay further stated that Tasmanian Apples (particularly Sturmers) were most suitable for putting up as solid pack or pie Apples. He looked forward to a substantial increase in this trade among pastrycooks and housewives.

VICTORIA.

EASTERN METROPOLITAN FRUIT GROWERS ASSOCIATION.

A General Meeting of the above Association was held in Ringwood Town Hall on December 13th. Mr. F. C. Pyke, Vice-Pres. chairing the meeting in the absence of Mr. A. D. Finger, Pres., on holiday.

Mr. T. R. Kneen, B.Agr.Sc., Senior Horticultural Instructor who gave an address on "Control of Codling Moth and other orchard pests" was warmly thanked.

The Secretary outlined Committee activities since last meeting. He also reported on meeting of the Victorian Fruitgrowers Council and the recent Interstate Conference of Fruitgrowers held in Melbourne on December 5th and 6th.

Proceeding to General Business, the following are major items:—

Decision to write Hon. W. G. McKenzie, Min. of Agric. in appreciation of purchase of site for Horticultural Research Station in this area; trusting same will speedily be developed and offering co-operation with Departmental Officers to this end.

2. Request to the Dept of Agric. that Codling Moth peak emergencies be broadcast on District basis.

3. Request also to Agric. Dept. that control of neglected orchards be tightened to prevent spread of pests to adjoining commercial orchards. Sub-divisional estates in East Ringwood and Ringwood were mentioned as particularly bad plague spots.

The Secretary reported membership at 162 at date and interest well sustained.

QUEENSLAND.

Pineapple and Banana Levies.

The Pineapple levy regulations have been extended to apply until 31st December, 1947, and the Banana levy regulations until 31st December, 1946.

Control of Factory Figs.

The Committee of Direction of Fruit Marketing, Brisbane, has given notice of its intention to issue a direction to control Figs for factory use for one year as from 9th February, 1946 unless a poll of the growers is requested.

Pineapple Grower v. Commonwealth.

Recently a Queensland Pineapple grower, Mr. McClintock took action to test the validity of the National Security regulations regarding the control of Pineapples, when the case was due to be heard illness of the plaintiff and of the counsel for defence caused the case to be postponed indefinitely.

Pine Needles for Stock Feed.

In tests recently conducted by the N.S.W. Dept. of Agriculture it was observed pine needles were at first readily eaten by sheep, but a few days later were refused. Then by alternating pine needles and chaff, the sheep were fed up to 4 lb. of pine needles without any apparent ill effect. It is considered that where pine needles can be obtained economically, and other feed is available so as to allow alternation of feeds, it would be quite practicable to utilise pine needles as an emergency feed for stock.

Fields for Co-operative Action

(By A. M. Stuart.) (Continued from page 10, October Issue.)

The likely fields for fruitful activity which are close at hand are:—

1. Standardisation and Improvement of Production.

There is a tendency on the part of farmers to do too much experimenting with varieties, whether of Apples, chickens, or Potatoes. Co-operative organisations can do much to bring about standardisation by discouraging the production of the less desirable, while at the same time bringing about the general adoption of a few of the best varieties. Then again, the organisation can bring about further improvement by promoting the adoption of those practices which tend to make for standard quality of product in the community. The general adoption of what have been shown to be the best methods of spraying and pruning of orchards, for example, should make for uniformity of colour and appearance in the fruit.

2. Standardisation and Improving Grade and Pack.

Another outstanding possibility for co-operative marketing organisations consists in improving and standardising grade and pack. By means of district packing sheds, creameries, etc., various co-operatives in this State have played an important part in bringing about not only the improvement of grades, but the standardisation of grades to make them uniform. The greater the control of the central organisation over the product the greater the possibility that a high degree of perfection may be reached along this line.

A long programme of education may be necessary with such products as berries and certain other deciduous fruits, where farmers do their own grading and packing.

Considerable effort is required in this particualr branch of marketing, and the improving and standardising of grade and pack should and will make marketing more efficient by (a) raising the standard of quality of the product, (b) improving its carrying quality, and (c) permitting readier agreement between buyer and seller.

3. Stabilizing Production.

Controlled production is impossible because, firstly, of the uncontrollable element of weather, and secondly, the decision as to how much to plant is vested in so many individuals each acting independently. Under existing conditions growers of Apples, citrus, Grapes, etc., continue to plant so long as prices are remunerative, in spite of the fact that large acreages have already been planted, but have not yet come into production. It is for this reason that stabilized production is needed. If some of the overplanting can be prevented it will help

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to prevent depressions which so often follow. Co-operative organisations can render invaluable service in this direction by keeping their members and others thoroughly informed as to the propects of overplanting or underplanting.

The organisations can do three things:—

(1) They can help make crop information more accurate.

(2) They can do even more to disseminate the facts.

(3) They can still do more to bring about intelligent action on the basis of established facts, not only on the part of their members, but on the part of outsiders as well.

Large co-operative associations should have at their disposal the talent to show the public and Government officials that stabilization benefits the public by preventing the recurrence of successive periods of surplus and shortage.

4. Controlling Market Flow.

The control of flow to market is often referred to as "orderly marketing," but the term is often misunderstood and over-emphasised. In this direction, however, there are many possibilities for fruitful co-operative action. The matter is fraught with many difficulties and demands great care and planning, for if the conditions of the market are misjudged each member is likely to feel that he as an individual would have sold at a higher figure. The study of diverting surpluses to other than the usual uses presents a definite possibility for "orderly marketing." With staple lines such as Apples, eggs, wool, grain, etc., the application of orderly marketing is more simple, but with perishable products with a highly-seasonal demand the position is more difficult and calls for very careful and detailed planning. On the whole, control of flow to market is full of possibility when intelligently and boldly undertaken, but it is equally full of danger when undertaken without adequate knowledge of facts or skill in execution of plans.

5. Advertising and the Development of New Markets.

It is a well-known fact that there are fairly definite limits to the amount of food each person can eat; therefore it naturally follows that the advertising of food products will certainly sell one product at the expense of another. It has been proved, however, that judicious advertising by co-operative associations has and will continue to pay. Undoubtedly many people could eat somewhat more meat, more fresh vegetables, and more fruits than they do now either by substituting for staples or in addition to what is already eaten, if they could be led to prefer those things over some of the things for which they now spend their incomes.

The development of new markets requires more than ordinary advertising, and it is only a strong co-operative organisation controlling a large portion of an important crop that can afford to undertake such activities.

However, advertising and the development of new markets is an outstanding and important part of co-operative marketing.

Limitations of Organised Price Control.

There are many other possibilities for co-operative marketing, but time does not permit a consideration of them. There is also the other side of the picture, namely the definite limitations of the co-operative marketing system, but it is not intended that they be dealt with in this article; some of them have, in fact, been already touched on. Perhaps, however, the element of price control, the implementation of which must be classed as a definite limitation, could be briefly dealt with.

Many members think co-operative organisation means absolute control over prices. It is highly important, however, that members fully understand the relationship of their organisation to prices, and the limitations upon organised price control.

Members sometimes feel that growers who have remained outside of the organisation have reaped the benefits of the organisation without contributing to its support. This is invariably true in the instance of organisations which occupy a sufficiently prominent place in the marketing of certain commodities to give them considerable temporary control over prices. Prices inside and outside of an organisation often are hard to compare. Non-members will frequently obtain some benefits. However, members who desire to withdraw on this account need to bear in mind that if everyone should do so there would be no organisation, and consequently no benefits. The value of an organisation should be measured by the services it renders to members rather than by the benefits it may give others.

It is well to remember that co-operative associations should be judged on the basis of service they can perform, not on impossibilities. Perhaps one of the biggest disadvantages of co-operative organisation is that members look for impossibilities; therefore, an understanding on the part of members, of the methods, policies, possibilities, and problems of their organisation is highly important.

The fundamental principle of co-operative marketing can be summed up in a few words, namely, that it has for its purpose the getting of better results for its members through bringing about improvements and effecting economies in marketing, by selling in accordance with market conditions, and by assisting growers in adjusting production to market needs.

Hereunder are a few questions which members can ask themselves, and which will give them a better understanding of the aims of their organisation:—

1. Are the results obtained by the organisation better than those which individual members would have obtained without an organisation?
2. Is the organisation improving upon marketing methods?
3. Are returns better with an organisation than without?
4. Has it improved grade and quality?
5. Is the organisation rendering economical service?
6. Is it finding new markets?
7. Is the organisation in a position to handle a surplus crop resulting from favourable seasons?
8. Is it more effective than the individual in dealing with the buyer?

Finally, I am indebted to the Australian Broadcasting Commission for the following words:—

"We are standing at the threshold of a new age. Are we going to continue to muddle through our problems, and 'Let things take their course,' or shall we examine them and try to solve them in a spirit of goodwill and co-operation and in the light of the experience we have so dearly bought."

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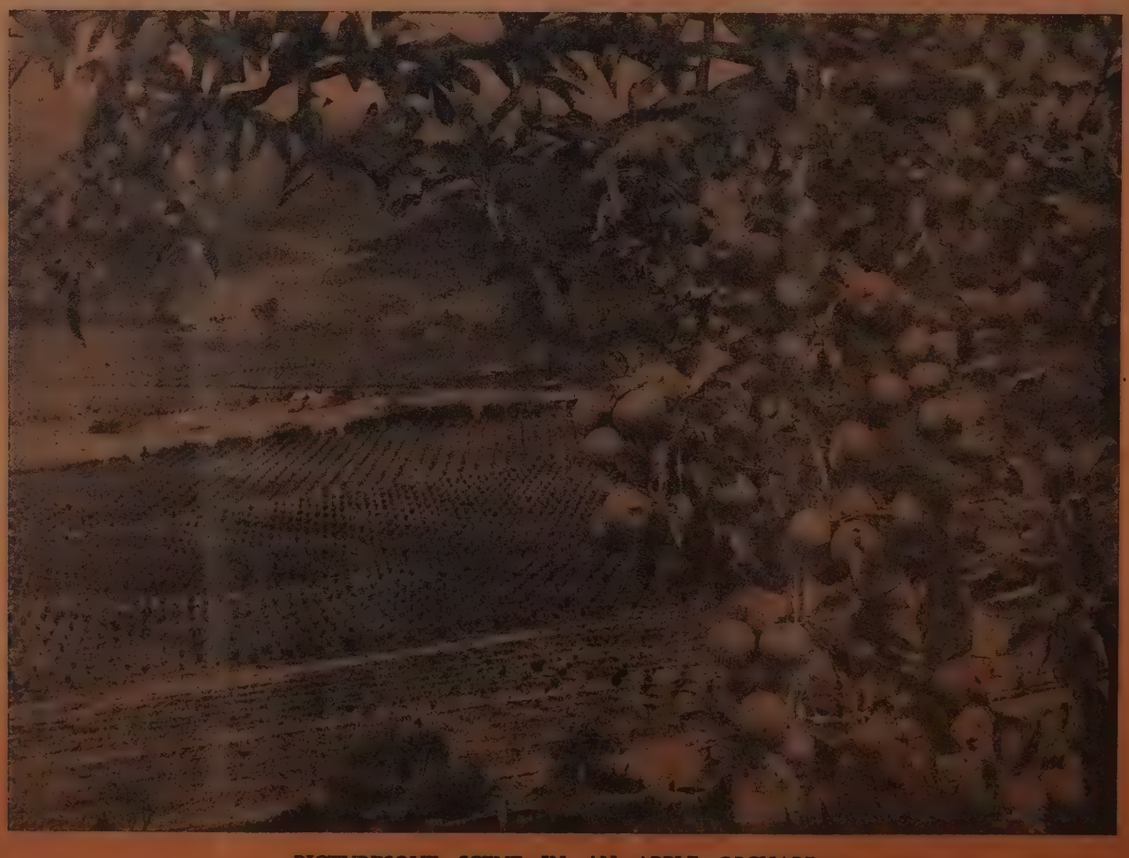


PICTURESQUE SCENE IN AN APPLE ORCHARD.

LEAF SPOT AND SPECKLE OF BANANAS.

Control Programme.

LEAF SPOT AND SPECKLE, the symptoms of which are only too familiar to most Banana growers, usually occur together and their ultimate effect on plants is similiar. They are responsible for much destruction of foliage and for much of the "poorly-filled" or "thin" Bananas which are sent to market.

The following measures for the control of these diseases are recommended by the Biological Branch of the N.S.W. Department of Agriculture:—

1. Commencing in early December, and each month till March, spray all plants which will bunch during the period January to May with a suspension of copper oxychloride (1½ lb. to 40 gallons, 6 oz. to 10 gallons, or 2½ oz. to 4 gallons) and colloidal sulphur (1 lb. (11.4 fl. oz.) in 40 gallons, 4 oz. (2.8 fl. oz.) in 10 gallons, or 1.6 oz. (1.1 fl. oz.) in 4 gallons). A wetting agent (1 fl. oz. to 16 gallons) should be added to the mixture. During the February and March applications include those plants which will bunch during June, July and August.

At each application direct the spray to the underside of the three youngest leaves and to the heart leaf, and discontinue spraying when the bunch is out. Apply the spray from two directions at the heart leaf in an endeavour to get some fungicide into the central cavity. Bordeaux mixture (1-1-10)—see Spray Leaflet No. 1, available free from the Department—may be used instead of copper oxychloride in plantations where its preparation is not a problem.

2. Promote vigorous growth by desuckering to the one-plant-one-sucker system or the two-plant-two-sucker system, by fertilizing, weed control and winter cultivation.

3. Discuss with your local Banana Inspector best spraying equipment, methods of spraying, best sources of materials, wetting agents, and methods of making stock solutions. In valuable plantations consideration should be given to installing permanent spray lines.

CARE OF POULTRY IN HOT WEATHER.

Poultry keepers are reminded that special precautions are necessary to prevent high mortality amongst the birds from heat apoplexy during hot weather. The number of deaths that occur on each farm during a heat wave varies considerably. According to poultry experts of the Victorian Department of Agriculture, many factors contribute to mortality in the poultry run during periods of hot weather and various means of reducing losses to a minimum have been tried. Fowls kept in large numbers under intensive conditions, are particularly subject to the effects of heat. Generally, the most satisfactory results have been achieved by spraying the litter and the walls of the house, and also the birds, with water at frequent intervals during the hottest part of the day.

There should be ample room in the laying houses, as overcrowding causes the birds to become overheated. A house of 20 ft. square, 8 ft. high in the front and 6 ft. high at the back, with a 6 inch opening along the back under the roof, will allow of good ventilation, and provide sufficient room for 100 birds. Plenty of nests inside the houses are essential, and careful consideration should be given to ventilation.

Feeding on correct lines is necessary at all periods of the year. A suitable combination of clean wholesome foods, sufficient for the birds' requirements, is essential to prevent them from becoming lowered in vigour. It should be a rule never to allow the birds access to any unclean or decomposing foods, as these greatly interfere with their health, particularly in hot weather.

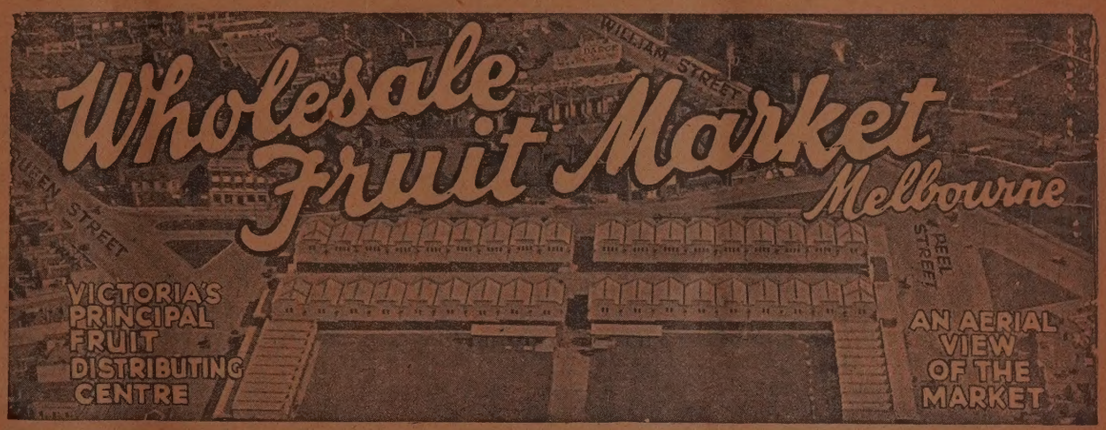
An adequate supply of green feed daily is also essential to the maintenance of health.

VETERINARY SCHOLARSHIPS.

Six Veterinary Scholarships will be awarded this year by the State Government to enable selected Victorian students to undertake a course in Veterinary Science at the Melbourne and Sydney Universities.

Applicants should set out their full name, address, age and scholastic attainments, and address their applications to the Director, Department of Agriculture, Treasury Gardens, Melbourne, C.2. Applicants must also lodge an application with the Registrar of the Melbourne University, Carlton, for admission to the Veterinary Course.

The closing date for the receipt of applications is January 23, 1946.



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Market Notes and Prices

NEW SOUTH WALES.

Sydney (19/12/45).

The State Marketing Bureau reports as follows:—

Supplies of Peaches declined appreciably and the market was very firm. Choice fruit was keenly sought and 20/- per half-case was paid readily. Lower grade lines sold from 10/-.

Only limited quantities of new season's Apples were received. The maximum of 29/- per bushel was paid for the best trade sizes. Small fruit was offered at much lower levels.

Fruit.

Ruling rates were:—Apples: New Season's, 20/- to 29/-, small and inferior lower; Oranges: Navel, 2nd crop, 5/- to 12/-, few 16/-; Valencia, Main crop, to 20/-; Coastal Valencia, 2nd crop, 5/- to 15/-, few 20/-; Lemons: Coastal, 8/- to 16/-, specials to 18/- per bushel case; Bananas: 5½d. per lb., inferior lower. (Weight 80 to 96 lb. per case). Passionfruit: Queensland, 10/- to 20/-, North Coast, 10/- to 22/-, few higher; Peaches, Choice 20/-, other grades from 10/-; Apricots: 6/- to 10/-, choice 12/-, special large to 15/-; Plums: 6/- to 16/-, specials to 20/-; Mangoes: Apple, Queensland, 10/- to 16/- per half case; Cherries: Dark, 12/- to 16/-, specials, 18/-, inferior lower, Light 7/- to 12/- per quarter case; Pineapples: 21/3d. (nominal); Papaws: 15/- to 25/-, specials to 30/- per tropical case.

Vegetables.

Peas: 5/- to 14/-, extra choice 16/-; Beans: 5/- to 14/-, few early sales higher, per bushel; Cabbages: 2/- to 7/-, few specials to 10/-; Marrows: 2/- to 3/-; Squash: 2/- to 3/- per dozen; Lettuce: 7/- to 12/-, early sales to 15/- per case; Carrots: 25/- per cwt.; Parsnips: 4/- to 7/-; White Turnips: 4/- to 6/-; Rhubarb: 3/- to 6/-, few higher; Spinach: 8/- to 12/-; Celery (Local), 4/- to 12/-; Eschalots: 4/- to 6/-; Asparagus: 12/- to 30/-; Mint: 3/- to 6/-; Parsley: 24/- to 36/-; Radishes: 4/-; Beetroot: 4/- to 9/- dozen bunches; Tomatoes: Metropolitan, field grown, 8/- to 18/-, extra choice smooth skin 20/-, few 22/-, ripe and inferior lower; North Coast, 4/- to 14/- extra choice 18/-, few higher, per half case; Potatoes: 1st grade, 7/10½d.; Onions: (Queensland), White 23/6d., inferior lower, Brown, 18/- to 20/-; Swedes: 12/- (nominal); Pumpkins: 8/- to 14/-; Sweet Potatoes: 16/- (nominal) per cwt); Cucumbers: Apple 6/- to 12/-,Green 6/- to 10/- per half case.

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Melbourne (7/1/46).

Light supplies of vegetables cleared rapidly at firm prices at the Queen Victoria wholesale market on Saturday. Fruit continued to meet with a good demand, but sales of berry fruits were slower. Quotations:—

Vegetables.

Asparagus: 4/- to 8/- for 100; Beans: kidney, 24/- to 45/- 50 lb., few to 48/-; Beetroot, 10d. to 1/- doz. max. 14/- cwt.; Beet: Silver, 4/- to 5/- doz bnchs; Cabbages, 5/- to 10/- doz., few 12/-; Carrots: 3/6 to 4/6 doz. bnchs., max. 21/- cwt. without tops, 16/- cwt. with tops; Celery: 6/- to 8/- doz.; Cucumbers: 2/- to 5/- doz.; Garlic: 6d. to 9d. lb.; Horseradish: 1/- to 1/3 bundle; Lettuce, 8/- to 12/- case; Mint: 2/6 to 3/- doz. bnchs.; Onions: dried, 3/6 to 5/- case; do. green, 2/- to 3/- doz bnchs; Parsley: 2/6 to 3/- doz. bnchs.; Parsnips: 4/- to 4/6 doz. bnchs., max 23/- cwt. without tops, 18/- cwt. with tops; Peas: 15/- to 40/- 50 lb; Potatoes: 10/6 to 11/- bag; Pumpkins: 9/- to 24/- doz.; Radish: 2/6 to 3/- doz. bnchs.; Rhubarb: 4/- to 5/- doz. bnchs.; Spinach, 5/- to 7/- doz. bnchs.; Tomatoes: 3/- to 20/- case, few higher; Turnips: 3/- to 4/- doz. bnchs.; do, Swede: 12/- to 14/- bag; do, 4/- to 4/6 doz bnchs; Vegetable Marrows: 6/- to 9/- doz.

Fruit

(bushel case, unless stated).

Apples: eating, 20/- to 27/-; do, cooking, 8/- to 16/-, few higher, Apricots: 8/- to 25/-, few higher; Cherries: 1/- to 1/6 lb., few higher; Currants: red, 10d. to 1/- punnet; Loganberries: 8d. to 10d. punnet; Blackberries: 8d. to 9d. punnet; Oranges: Navel and Valencia, to 20/6 (max.); Lemons: 15/- to 20/- (max.); Loquats, 20/- to 25/- half case; Raspberries: 8d. to 9d. punnet; Strawberries: 1/6 to 3/- punnet; Nectarines: 15/- to 30/-, few to 35/-; Peaches: 15/- to 30/-, few to 33/-; Papaws: 15/- to 25/- dble. case, few 30/-; Plums, 8/- to 20/-, few to 25/-; Cherry Plums, 6/- to 8/-; Bananas: to 6½d. lb (max.); Pineapples: 20/- to 23/9 dble. case (max.); Passionfruit: 15/- to 25/- half case; Cantaloups: 15/- to 30/-.

Adelaide (24/12/45).

Prices ruling and yesterday's East End Markets, supplied by S.A. Fruitgrowers' and Market Gardeners' Association.

A firm tone prevailed on Monday's market with the usual pre-Xmas rush of buying. Peas and Beans were very short and sold at ceiling. Lettuce was short. Tomatoes sold freely. Bunch vegetables were well picked up. Cucumbers were short. Peaches sold well. Quality Apricots were in demand, with small fruit quiet. Cherries sold freely at recent rates.

The undermentioned quotations are for F.A.Q. cases extra, except where stated.

Vegetables.

Beans (French), 14/- doz. lb.; Beetroot, 3/- doz. bchs.; Cabbages—large 8/-, medium 6/-, small 4/- doz.; Carrots, 3/6 doz. bchs.; Cucumbers, Green and Apple shaped, 3/- doz.; Lettuces, 3/6 doz.; Onions, pickling 18/-, white 12/- to 14/- cwt.; Parsnips, 4/- doz. bchs.; Peas, 20/- bushel; Potatoes, 8/1½ cwt.; Rhubarb, Cherry, 2/- doz. lb.; Tomatoes, firsts 14/- ½ case; Trombones, 21/- cwt.; Turnips, 3/- doz. bchs., Swede 4/-; Vegetable Marrow, 16/4 doz.

Fruits.

Apples: All varieties Apples 27/-, case included.

Apricots, 12/- ½ case; Peaches, White, 18/6; Plums, Santa Rosa 14/-, Jap. 12/-; Figs, 7/- to 8/- ½ case; Cherries, Light 18/- to 21/- ½ case, Margaret 26/-, Blacks 20/-; Gooseberries, 10/- ½ case; Raspberries, 15/- doz. lb.; Jam Raspberries, 10/- doz. lb.; Currant, Red, 10/- ½ case, Black 21/-; Bananas, Ripe, 6½d. per lb.; Pineapples, 5½d.

Cases and containers are extra to the above prices except where stated.

CREEPS FOR SUPPLEMENTARY FEEDING OF SUCKING PIGS.

Most successful pig raisers have proved the value of supplementary feeding of pigs while they are sucking their mothers. Mr. L. A. Downey, Pig Expert of the Victorian Department of Agriculture, points out that such feeding results in heavier pigs at weaning and that weight advantage is retained throughout the pigs' growth to bacon weight.

Supplementary feeding of suckers is usually commenced when they are three weeks old and continued until they are weaned at about eight weeks old. It is usually accomplished by providing a "creep" which provides access to the suckers, but not to the sow. Within the creep are two shallow troughs, one containing meal and the other water or separated milk.

The object is to have food and drink available constantly as the suckers require food, little and often. Dry meal is preferred to wet mash because the latter ferments when it is kept continuously in the trough.

A constant supply of water or milk is necessary because the pigs' consumption of dry meal is limited by their ability to obtain a drink.

A creep may be provided for each litter in its pen or, where several litters are run together in one enclosure, a community creep may be provided and under these conditions, the creep feeding compensates for any "robbing" done by the stronger pigs which sometimes drink from more than one sow.

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Tatura Horticultural Research Station

GOULBURN VALLEY SOIL TYPES.

(By Our Travelling Correspondent).

IN 1929 the Victorian Government acquired a holding of approximately 101 acres, two miles due east of Tatura in the Goulburn Valley, as a site for a Horticultural Research Station. A point of considerable importance in attesting the value of a research station is the extent to which results of experiments carried out there may be applied to other areas. Obviously the question of soil types enters largely into the consideration.

Clay-Pan and Buck-Shot Soils.

An examination of the holding revealed five soil types which had developed from Goulburn Valley alluvium of late tertiary to recent age. Most of the soils showed a definitely silty character and fairly low proportions of calcium carbonate, features which distinguish Goulburn Valley soils in general from those of the Mallee. Clay-pan structure, also characteristic of the Goulburn Valley region, is shown in most profiles, while there is also a frequent occurrence of iron bearing globules in the form of "buckshot"

Kyabram and Merrigum Soil Type.

What was classified as soil Type A is similar to typical Goulburn Valley Silty loam which occurs widely throughout the Valley, particularly around Kyabram and Merrigum. The profile characteristic of this type is light reddish brown silty loam to silty clay loam extending from the surface to a depth of about 5 inches, red-brown medium clay from the 5 in. to the 9 in. level, red-clay from the 9 in. to 24 in., light brown clay with some limestone rubble from 24 in. to 45 in., and yellow-brown clay with red-brown and brown inclusions and limestone rubble from 45 in. to 70 in.

Tongala Type.

The soil classified as type D is representative of the typical profile of the Tongala district and is closely related to "Ballendella Loam" of Bamawn, this shows a light red-brown, fine sandy loam, surface to the 5 inch depth, and red to red-brown medium clay with odd lime from the 5 to 18 inch level, red to light brown clay with some soft lime from 18 in. to 25 ins., brown clay loam 25 in. to 42 ins., brown silty loam with limestone rubble 42 in. to 65 ins., brown light clay with odd limestone rubble 65 ins. to 75 ins., yellow -brown to red-brown light clay and some grey mottlings 90 ins. to 114 ins., and light red-brown to grey-brown light clay from 114 ins. to 150 ins.

Shepparton Type.

Type E and its modifications are frequent in the neighborhood of Shepparton, and "Bawawn Sandy Loam" is a related soil. This is a red-brown fine sandy loam to the 8 in. level then red medium clay to 26 ins., yellow-brown fine sandy loam (micaceous) to 46 in. and greenish-yellow, micaceous. silty loam with rubble limestone from 46 to 52 inches.

Type C occurs in "buckshot" depressions throughout the Valley. It is a grey silty clay loam with buckshot and white streaks below the surface to a depth of 6 ins.—with yellow clay and buckshot from 6 to 26 inches, buckshot especially in the section 6 to 9 inch, yellow clay from 26 to 37 inches, yellow medium clay with grey and red-brown mottlings, and odd limestone nodules from 37 to 54 ins., and yellow-brown medium clay, with grey mottlings from 54 to 66 ins.

Contour and Soil Types.

The occurrence of individual types of soil was noted to be in close relation with contour on the allotment; the maximum natural difference in level being 5 ft. Type C is found in basin or swamp areas; A covers the intermediate areas, and D and E the high ground area.

First Plantings 1937.

This soil survey was carried out in 1934 and confirmed the original selection of the property as being typical of soil types from Rochester to Shepparton East. The rainfall figures showed a fairly good distribution throughout the year, with a well defined winter maximum usual for the region.

The soil was virgin to fruit trees and was leased for grazing and cropping. In 1936 the holding was fenced and the soil prepared for the orchard plantings in the following year. Two blocks of Peaches were planted, one of 9 acres for irrigational experiments, and one of 8 acres for manurial experiments. Another section was devoted to Pears for the purpose of pollination, irrigation manurial and cultivation experiments. 7 acres of Williams were planted and 7 acres of Packhams and Josephines mixed.

Experiments were also commenced in the cross-breeding and selection of Peaches with a view to evolving a range maturing in sequence of improved varieties suitable for canning—from both the growers' and the canners' angles. These are, of course, all long range experiments and results cannot be expected over night. Uniform growth under identical conditions must be attained before the reaction to a particular experiment can be accurately determined, and this must in turn be repeated over a number of years before it may be considered to have been confirmed. The soil type on which the planting is made, the variety of the tree, its age, size, and treatment since planting are meticulously observed.

In 1938, selected varieties of Apricots were planted and preliminary observations, such as rate of growth and behaviour under certain conditions were made.

The next planting under commercial conditions was made in 1941, when a planting of seedling Pear stocks raised on the property was made for the purpose of investigating the virtues of various Pear root stocks.

All plantings were made with trees from existing Victorian nurseries. Each tree before planting was measured and each year growth was recorded with the most minute accuracy to discover, among other things, if a small tree always remained so, or whether an initially large tree always retained its advantage. Altogether 3,500 detailed measurements were recorded, though shortage of staff and additional activities have interrupted proceeding in the past two years.

Large scale experiments on the application of manures were commenced in 1944 on the Peach section.

Inter-Pollination and Pears.

It has been suggested in N.S.W. and overseas that Williams Pears bear a better and more evenly shaped fruit, with better hanging ability, if there is an adequate proximity of other varieties for cross-pollination purposes. To determine the verity of this suggestion half of the block of Williams Pears has been interspersed

(Continued on page 24)

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TATURA RESEARCH STATION—(Continued).

with Beurre Bosc. Even shape is important in canning Pears because there is otherwise a considerable wastage through the machines.

Tomatoes.

In the past few years the Station was called on to develop Tomato production in the Goulburn Valley district to meet the urgent need of the fighting forces for this vitamin rich food. Mr. R. S. Harper, who is in charge of the Station, and Mr. Basil Krone of the Department and their assistants working as a team assisted in evolving two new varieties very suitable to the district and for canning. The first was Tatura Dwarf Globe and ideal sort except that it has a very delicate skin, which makes it difficult to handle. The second Tatinter, which carries better and is a smooth, full fleshed, coreless variety, which responds well to fertiliser.

Production in the Goulburn Valley has been quickly stepped up. Plantings were increased from 800 acres to a total acreage last year of 3,374 acres. There were 370 growers and an aggregate crop of 1,584,076 cases.

In the Shepparton district 293 growers planted 2,719 acres; in Mooroopna, 12 growers planted 69 acres; Ardmona, 12 growers, 48 acres; Tatura and Dhurringile, 23 growers, 380 acres; Kyabram, 20 growers, 88 acres; Cobram, 10 growers, 70 acres.

The average yield per acre was 500 cases, or between 9 and 10 tons, the highest authenticated yield being 1,500 cases to the acre.

Many growers have co-operated with the Station in testing new varieties under field conditions. In Shepparton it has been the custom to plant on the same ground each season, but better results were got in other districts by using new ground each year.

Fruit Research in New Zealand

Magnesium Deficiency — Apple Stock Experiment.

THE RECENT ANNUAL report of the Cawthron Institute, Nelson, N.Z., contains many items of interest.

Here are two of them:—

1.—Magnesium Deficiency in Apples.

Observations have been continued on the Apple trees at Tasman and Braeburn which were treated with various magnesium-containing compounds in the 1939-40 and 1940-41 seasons. At both centres Cox's Orange and Sturmer trees steadily improved in condition for several seasons, those trees treated in both years being the better. It has now become apparent that the effectiveness of the various compounds used (dolomite, magnesium carbonate and magnesium sulphate) has not been the same, although the rate of application as magnesium element was identical. Dolomite, especially where applied at 12 lb. per tree either in one season, or in two seasons at 6 lb. per application, has given consistently more lasting benefit than magnesium carbonate and more especially than magnesium sulphate. During the last two seasons, although some defoliation occurred on Cox's Orange, the ailment has been under control to a degree sufficient to satisfactorily develop the crop. Untreated trees have been in very poor condition and stand in marked contrast in the orchards to the neighbouring plots of treated trees.

In each season samples of leaf blades have been obtained from the various areas and on chemical analysis have shown increased magnesium contents for material from treated trees.

2.—Apple Stock Experiments at Annesbrook Orchard.

The past season has shown again the superiority of Double Vigour Stock (French Crab Seedling vegetatively propagated) over Northern Spy stock for the Statesman variety on the Annesbrook soil. This block was planted in 1931, yields being recorded for the first time in 1938. In the earlier years of bearing, the Northern Spy stock showed a slight advantage in higher yields of the Statesman trees but during the last three years, the trees of the more vigorous stock have outstripped easily the trees on the Northern Spy stock. In the 1943-44 season the yield of trees on the Double Vigour Stock was approximately 1 bushel per tree greater than those on the Northern Spy stock. The following table shows the yield from the two stocks over the last four years:—

Season.	Northern Spy Stock lb. per tree.	Double Vigour lb. per tree.
1941	101	116
1942	116	134
1943	126	148
1944	167	209

Yields were recorded for the first time from the Cox's Orange and Jonathan stock blocks which were planted in 1934 and 1935. In these stock experiments a comparison is being made of Northern Spy stock against a locally produced vegetatively propagated seedling stock and Northern Spy versus three East Malling stocks Nos. 1, 13 and 15.

In the case of Jonathan, the more vigorous seedling stock is already giving a higher yield than the Northern Spy stock. In regard to the East Malling stocks which were planted together with their control Northern Spy stock, a year later, the yield from East Malling No. 1 stock is a little higher on both varieties than Northern Spy with East Malling Nos. 13 and 15 stocks well behind.

COURSE IN FOOD PROCESSING ACTIVITY IN U.S.A.

FOOD PROCESSING is now so important in U.S.A. that the New York State College of Agriculture at the Cornell University, Ithaca, N.Y. has commenced 4 year courses in commercial food canning, freezing, dehydrating and the preserving industry in general with emphasis on fruit and vegetables.

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Printed by the Horticultural Press Pty. Ltd., for the Fruit World Pty. Ltd., Registered Office 8-10 Orr Street, Melbourne, and at 439 Kent Street, Sydney